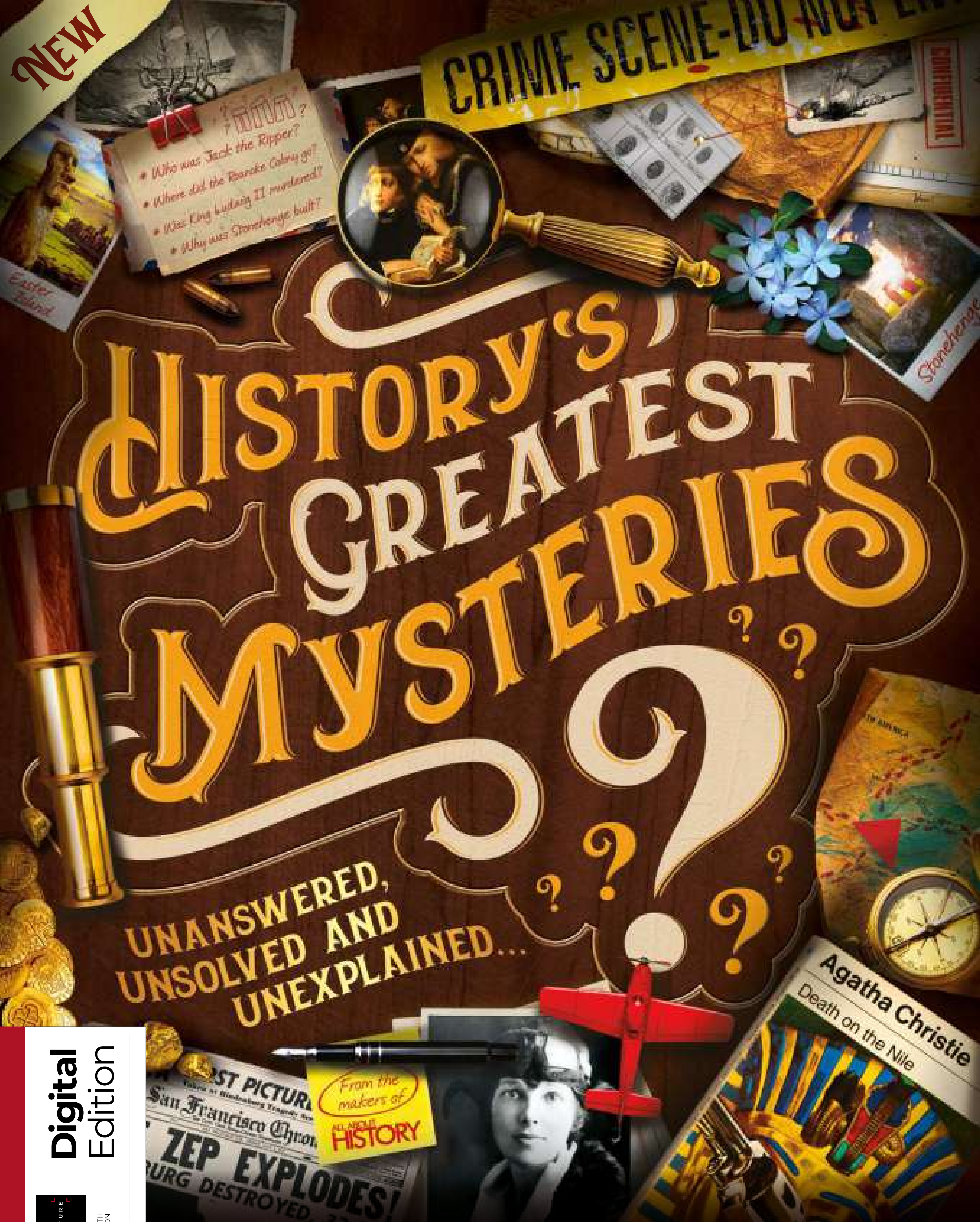
NEW

HISTORY'S GREATEST MYSTERIES?

UNANSWERED, UNSOLVED AND UNEXPLAINED...


CRIME SCENE-DO NOT EN
CONFIDENTIAL
?
• Who was Jack the Ripper?
• Where did the Roanoke Colony go?
• Was King Ludwig II murdered?
• Why was Stonehenge built?
Easter Island
Stonehenge
Agatha Christie
Death on the Nile
ST PICTURE
San Francisco Chron
ZEP EXPLODES!
URG DESTROYED, 33 DI
From the makers of
ALL ABOUT HISTORY

Digital Edition

FUTURE

FOURTH EDITION

LEGENDS & LORE ? DISAPPEARANCES ? GHOST SHIPS ? WHODUNNITS

WELCOME TO

HISTORY'S GREATEST MYSTERIES

Over 500 years ago, two young brothers disappeared, seemingly off the face of the Earth. These weren't just any boys, however - one was Edward V, king of England, who had recently been declared illegitimate and quickly usurped by his uncle, Richard III. After their strange disappearance, rumours of murder spread through the country, with suspicions falling upon the boys' uncle as well as other power-hungry figures at the royal court. To this day, debate rages about the curious fate of the Princes in the Tower.

From this Medieval murder mystery to the unsettling transmissions from Cold-War-era radio stations, uncover history's most fascinating and peculiar unanswered questions. Will we ever crack the code of the Voynich Manuscript? Who really was Jack the Ripper? What's the truth behind the Bermuda Triangle? Read on to see if you can solve history's greatest mysteries...

FUTURE

HISTORY'S GREATEST MYSTERIES

Future PLC Quay House, The Ambury, Bath, BA1 1UA

Editorial
Editor **Philippa Grafton**
Designer **Katy Stokes**
Compiled by **Aiden Dalby & Newton Ribeiro**
Senior Art Editor **Andy Downes**
Head of Art & Design **Greg Whitaker**
Editorial Director **Jon White**

Cover images
Getty Images, Alamy,
Wikimedia Commons; Amelia Earhart, Author Unknown /
Simmler Children of King Edward, National Museum in Warsaw.

Advertising
Media packs are available on request
Commercial Director **Clare Dove**

International
Head of Print Licensing **Rachel Shaw**
licensing@futurenet.com
www.futurecontenthub.com

Circulation
Head of Newstrade **Tim Mathers**

Production
Head of Production **Mark Constance**
Production Project Manager **Matthew Eglinton**
Advertising Production Manager **Joanne Crosby**
Digital Editions Controller **Jason Hudson**
Production Managers **Keely Miller, Nola Cokely,**
Vivienne Calvert, Fran Twentyman

Printed in the UK

Distributed by Marketforce, 5 Churchill Place, Canary Wharf, London, E14 5HU
www.marketforce.co.uk Tel: 0203 787 9001

History's Greatest Mysteries Fourth Edition (AHB4333)
© 2022 Future Publishing Limited

We are committed to only using magazine paper which is derived from responsibly managed, certified forestry and chlorine-free manufacture. The paper in this bookazine was sourced and produced from sustainable managed forests, conforming to strict environmental and socioeconomic standards. The paper holds full FSC or PEFC certification and accreditation.

All contents © 2022 Future Publishing Limited or published under licence. All rights reserved. No part of this magazine may be used, stored, transmitted or reproduced in any way without the prior written permission of the publisher. Future Publishing Limited (company number 2008885) is registered in England and Wales. Registered office: Quay House, The Ambury, Bath BA1 1UA. All information contained in this publication is for information only and is, as far as we are aware, correct at the time of going to press. Future cannot accept any responsibility for errors or inaccuracies in such information. You are advised to contact manufacturers and retailers directly with regard to the price of products/services referred to in this publication. Apps and websites mentioned in this publication are not under our control. We are not responsible for their contents or any other changes or updates to them. This magazine is fully independent and not affiliated in any way with the companies mentioned herein.

FUTURE
Connectors.
Creators.
Experience
Makers.

Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR)
www.futureplc.com

Chief executive **Zillah Byng-Thorne**
Non-executive chairman **Richard Huntingford**
Chief financial officer **Rachel Addison**

Tel +44 (0)1225 442 244

Widely Recycled

ipso. For press freedom with responsibility

CONTENTS

In search of the truth behind history's most perplexing unsolved mysteries

WHODUNNITS

10 **MURDER IN THE TOWER**
When two princes disappeared, it sparked history's most debated murder mystery

16 **WHO KILLED HENRY DARNLEY?**
The unsolved murder of Mary, Queen of Scots' husband

20 **THE MYSTERIOUS DEATH OF LUDWIG II**
Accident, murder or suicide - what really happened to the mad king of Bavaria?

30 **JACK THE RIPPER**
Will we ever know who the infamous serial killer of London really was?

36 **UNSOLVED MURDERS AND MYSTERIOUS DEATHS**
Across the centuries, bodies have piled up in mysterious circumstances...

DISAPPEARANCES & DISASTERS

46 **A VANISHED COLONY: THE MYSTERY OF ROANOKE**
A 16th-century English colony in America showed great promise - but disappeared

50 **TERROR ON THE ICE**
How an obsession with finding an Arctic passage sealed the fate of HMS Erebus

56 **MARITIME MYSTERIES**
Disappearing boats and abandoned ships have littered the seas for centuries

62 **THE HINDENBURG DISASTER**
What caused the fiery final flight of the world's most famous airship?

66 **THE LAST DAYS OF AMELIA EARHART**
Has the mystery of this aviator's disappearance finally been solved?

72 **THE DISAPPEARING SKYJACKER**
Who is the mysterious DB Cooper and what happened to him?

80 **VANISHED INTO THIN AIR**
From Agatha Christie to Glenn Miller, what happened to these famous faces?

86 **THE BERMUDA TRIANGLE**
What is the truth behind the fabled and terrifying Bermuda Triangle?

ANCIENT & MYTHICAL

94 **GIZA'S LONG LOST PHAROAH**
The resting place of Khufu of Ancient Egypt continues to elude historians

100 **THE SECRETS OF STONEHENGE**
Solstices, Druids and the dead: why does Stonehenge exist?

108 **UNEARTHING THE MOAI OF EASTER ISLAND**
The iconic stone statues hold the secrets of Easter Island's cultural history

114 **LOST CITIES**
Separating fact from fiction about history's mythical cities

CURIOSITIES

122 **CRACKING THE CODES**
Many impenetrable texts have evaded the understanding of the sharpest minds

130 **SECRET SIGNALS**
Hidden in the static of the radio are some mysterious transmissions

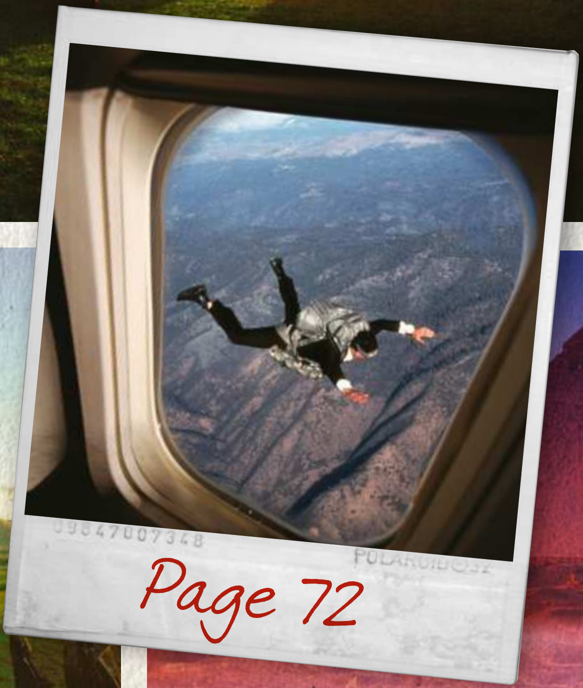
136 **LOST TREASURE**
Join the treasure hunters scouring the world for its legendary lost riches

86

83

115

102



Page 72

94

32

16

38

13

30

LUDOVICUS II.
BAVARIAE REX
MDCCCLXV

22

WHODUNNITS

History's most notorious unexplained deaths and unsolved murders

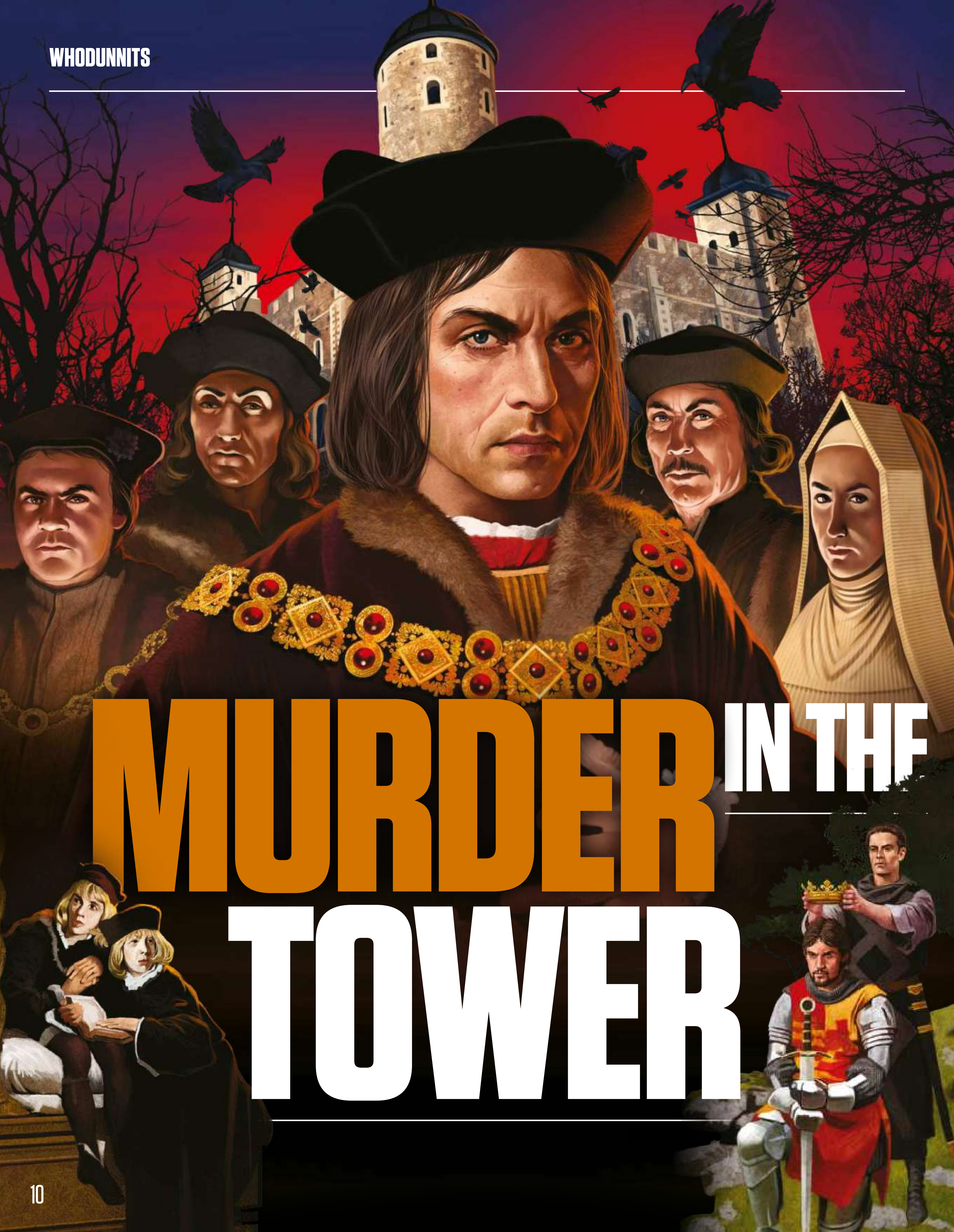
10 **MURDER IN THE TOWER**
When two princes disappeared, it sparked history's most debated murder mystery

16 **WHO KILLED HENRY DARNLEY?**
The unsolved murder of Mary, Queen of Scots' husband

20 **THE MYSTERIOUS DEATH OF LUDWIG II**
Accident, murder or suicide - what really happened to the mad king of Bavaria?

30 **JACK THE RIPPER**
Will we ever know who the infamous serial killer of London really was?

36 **UNSOLVED MURDERS AND MYSTERIOUS DEATHS**
Across the centuries, bodies have piled up in mysterious circumstances...



MURDER IN THE TOWER

When two young princes disappeared more than 500 years ago, it sparked one of the most controversial and debated murder mysteries in history…

WRITTEN BY **FRANCES WHITE**

It was a balmy summer's night in the dark twisting corridors of the Tower of London as Edward and Richard, the two young sons of York, slept soundly. A sliver moonlight fell upon their golden hair from a high window, and all was silent. Fast asleep in bed, their hands clutching each other for comfort, they barely stirred as the door opened with a creak. A figure slipped through the entrance. Stepping lightly, he swept up a feather pillow and slowly approached the beds before lunging forward, firmly holding the pillow over the older boy's face until his breathing stopped. Then he moved to the younger child. In a few minutes the deed was done, and the figure slunk back into the darkness and out of sight.

This story entered the nation's consciousness in late 1483, and it was retold over and over until it was accepted as fact. It was recounted by respected historians and made popular and immortalised by Shakespeare's *Richard III*. But where did this rumour start? Was it really King Richard who masterminded such an atrocious crime? And how did the death of two young children benefit anyone?

> "THE SEARCH FOR THE CULPRIT HAS BAFFLED AND INTRIGUED SCHOLARS FOR CENTURIES"

The succession to the English throne has never been as precarious and uncertain as in the 15th century. Since 1154, the English crown had belonged to the Plantagenets, but when Edward III died in 1377, he left behind a series of sons that he had gifted with dukedoms. This created a breed of aristocrats who all had distant claims to the throne. Henry IV, the son of the fourth son of Edward III, deposed and most likely murdered his way to the top and formed the House of Lancaster, as well as making a host of enemies in the process. The line seemed to be stable, but thanks to the inefficiency of his grandson, Henry VI, the conflict known as the Wars of the Roses broke out. It led to the succession of the first Yorkist king, Edward IV, but his hold on throne was anything but secure.

Despite the instability and political turmoil, Edward IV was a stronger ruler than his predecessor, and managed to establish some order in England. This all came crashing down in 1483 when he died suddenly, leaving his 12-year-old son, Edward, as king. This wasn't an unprecedented move; children had 'ruled' before, usually through the guidance of regents, but it certainly wasn't ideal with so many would-be heirs snapping at his heels. Edward V was an independent boy; he was mature beyond his years and he had already been preparing to be king, but he was a child in a man's world, and it did not take long for people to take advantage of his fragile position.

While awaiting his coronation ceremony in the Tower of London with his younger brother, Richard of Shrewsbury, the throne was torn from beneath Edward before he even had a chance to sit on it. His father's marriage to his mother was ruled invalid, as he had allegedly been pre-contracted to another beforehand, and their children, including young Edward, were declared illegitimate. Bastards were not judged worthy of the throne, so the crown fell into the hands of the next legitimate heir, his uncle - Richard III.

From this point on, the fate of the princes fades into myth and legend. Their last reported sighting was late summer 1483, and from then the records run dry. They were certainly never seen again in public, and soon rumours began to surface that the young boys had been murdered. There was no evidence that the princes had been killed, save their disappearance, but the search for the culprit has baffled and intrigued scholars for more than 500 years. In 1674, a wooden box containing two small human skeletons was discovered near the White Tower, the suspected site of the boys' burial. Believed to be the remains of the princes, the bones were buried in Westminster Abbey under the order of Charles II. However, these bones have not yet been subject to DNA analysis, and many experts don't believe they belong to the princes at all.

The problem with identifying the children's 'killer' is the era in which the murder supposedly occurred. It was a time when murder and treason were rampant and ambitions were sky high. There is not just one, but an array of possible suspects, all with their own motives for committing the crime. Contemporary accounts are unreliable due to the writer's own political alliances, and all of them contradict other versions of events. Shakespeare's play popularised the figure of Richard III as a scheming, heartless hunchback, willing to murder anyone to secure his throne, but just how accurate is this? Richard had his reasons to do away with the boys, but so did a host of others, and even more people had reason to drag Richard's name through the mud.

Is the common belief that Richard is responsible simply encouraging a vicious rumour created by his enemies some 500 years ago?

Image Source • Joe Cummings.

Countdown to murder

The final movements before the princes' disappearance

A KING DIES
After suffering from a short illness, Edward IV dies. The reason for his death is a mystery, with rumours of a possible poisoning as well as typhoid considered.
9 April 1483

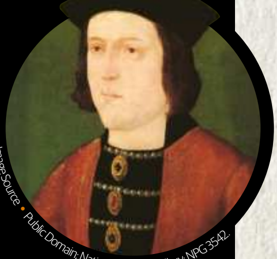


Image Source • Public Domain; National Portrait Gallery: NPG 3542.

THE LAST JOURNEY
His son Edward V and the royal party leave their home at Ludlow to travel to London for his coronation.
24 April 1483

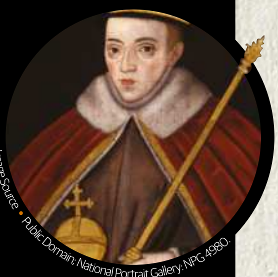


Image Source • Public Domain; National Portrait Gallery: NPG 4980.

A ROYAL ENTRANCE
Edward enters the capital with his uncle, Richard of Gloucester. They are greeted by the mayor and hundreds of citizens.
4 May 1483

FINAL RESIDENCE
Edward is moved into the Tower of London, which is the usual place for kings to stay prior to a coronation.
19 May 1483

Image Source • Getty Images.

THE BROTHERS REUNITE
After previously being held with his mother and half-siblings in sanctuary in Westminster, Richard joins his brother at the request of the Duke of Gloucester.
16 June 1483

Image Source • Public Domain; Richard Stilke / Illustrated London News.

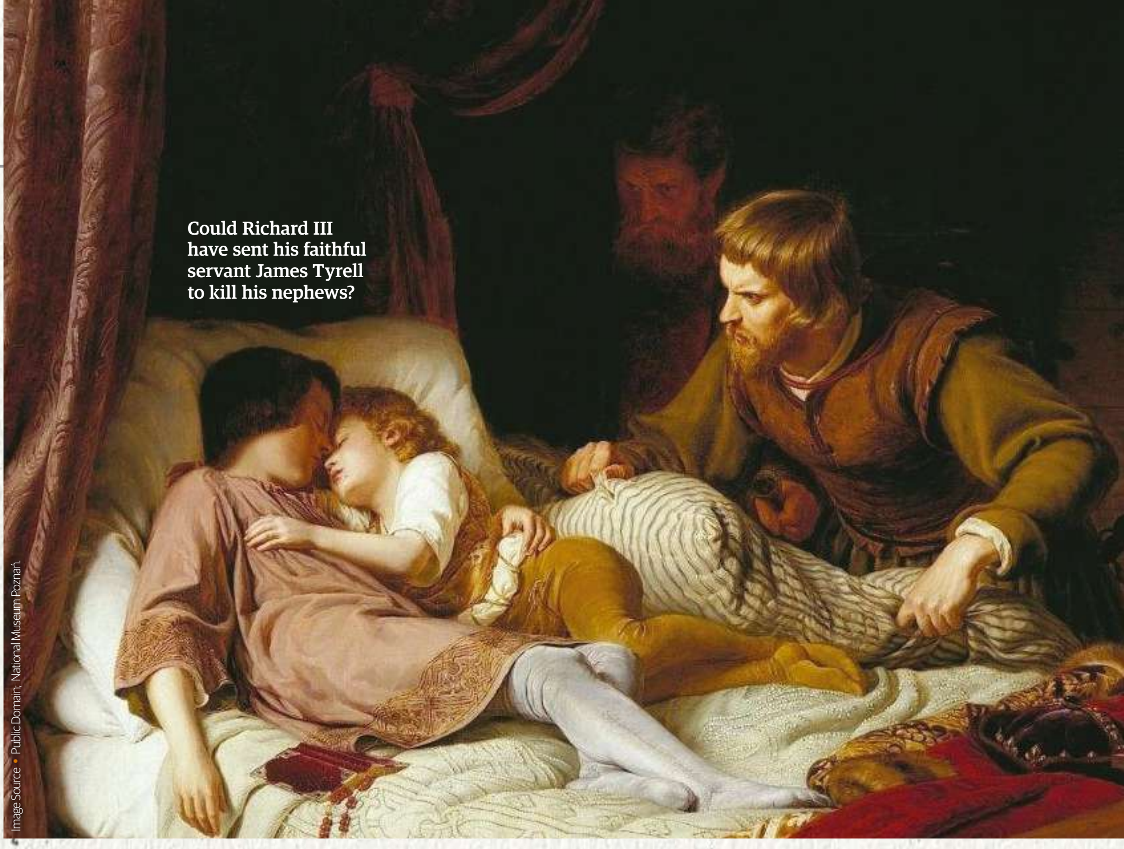
A NEW KING
Theologian Ralph Shaa preaches a sermon that declares all of Edward IV's children illegitimate. Three days later, Richard is declared king.
22 June 1483

LAST SIGHTING
The children are withdrawn to the inner apartments of the Tower and are seen less and less. By the end of summer, they are presumed dead.
End of the summer

Image Source • Public Domain; James William Edmund Doyle.

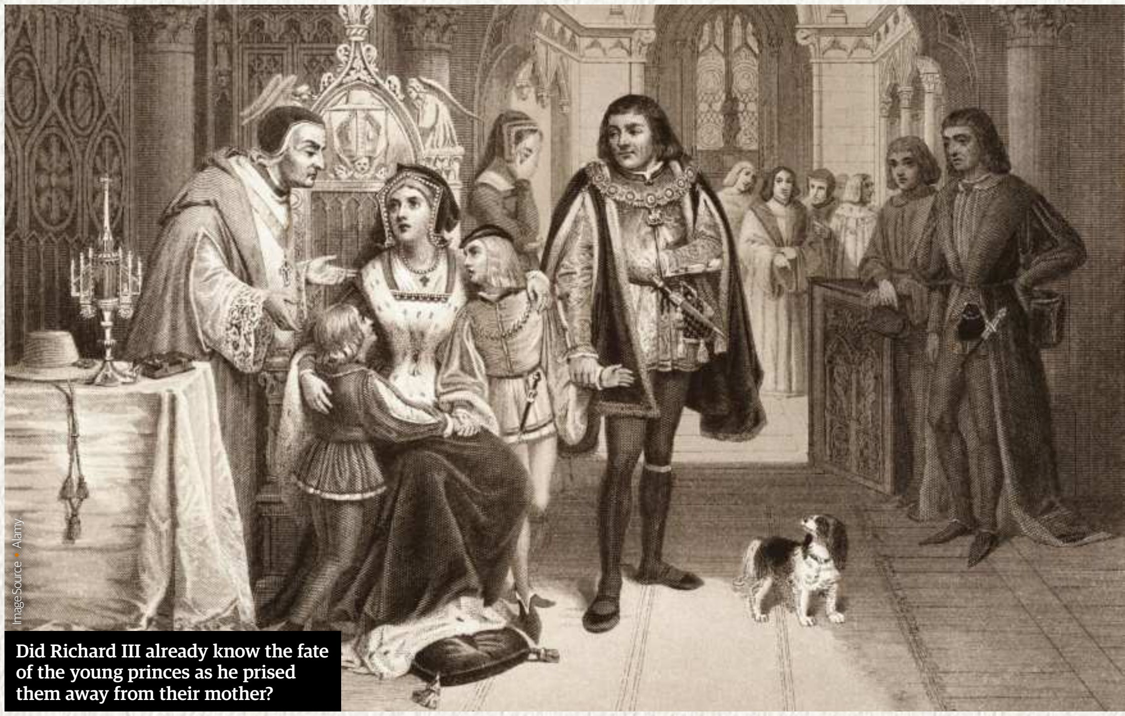
RICHARD III
RICHARD III

Image Source • Joe Cummings



Could Richard III have sent his faithful servant James Tyrell to kill his nephews?

Image Source • Public Domain, National Museum Poznań



Did Richard III already know the fate of the young princes as he prised them away from their mother?

Image Source • Alamy

Suspect 01

RICHARD III

Motive Secure his hold on the throne

Oppotunity Full control of and access

The reasons why Richard would murder his nephews seem rather straightforward. After serving his brother loyally for years, upon his death, the jealous and ambitious Richard seized the opportunity to claim the throne as his own. He first did this by dismissing, arresting and eventually murdering many of the ministers appointed to his nephew, Edward V, claiming that he did so for his protection. He then placed Edward and his brother in the Tower of London and delayed the coronation. Two weeks later, they were declared illegitimate and Richard ascended the throne. Although they had been disenfranchised, keeping the princes alive when they had such a strong claim was too dangerous, so he had them murdered.

If the events were this clear-cut, there would be no question as to who was responsible, but unfortunately they are not. Strictly speaking, Richard didn't take the throne illegally, he was asked to by a parliamentary committee. The only part played by Richard in the bill that declared the boys illegitimate, Titus Regius, was accepting it, perhaps indicating that Richard instead was a man who had no choice but to accept his role of king, else face a crisis of royal succession.

If Richard did indeed murder the princes to secure his own hold on the throne, then why did he not publicise their deaths? He could easily have claimed they died of illness, but he did nothing of the sort. When faced with the vicious rumours that threatened to destroy his reign and certainly lessened the public's support of his claim, he avoided even acknowledging the boys' disappearance. If his motive was to strengthen his grip on the throne, he failed to take advantage of the opportunity he created.

Most crucially, there is no solid evidence that the princes were murdered at all. If people can disappear in the modern day, then it is certainly likely that they could in the 15th century. It is entirely possible that Richard had the boys transported out of the country, and this is the reason why he was unable to easily present them when he faced accusations of their murder. It would also explain the uncertainty that surrounded their fate and the lack of evidence.

For Richard to be innocent, at least one other man had to have been lying - Sir James Tyrell. Tyrell was a loyal servant of Richard III and was bestowed with an array of titles and grants once he was in power. When Henry VII was crowned, Tyrell was initially pardoned for being a supporter of Richard, but in 1501 he was arrested for treason and executed. According to Thomas More, upon 'examination', Tyrell admitted that he had murdered the princes. Although we only have More's word for this, the fact that both King Henry and his wife attended Tyrell's trial - a very unusual event - indicates Tyrell did make this confession. Whether this was forced by torture or was actually true, we may never know - but it had huge implications for his master, Richard, firmly placing the murders at his feet for the next 500 years.

HENRY STAFFORD
HENRY STAFFORD

Image Source • Joe Cummings.

Suspect 02

HENRY STAFFORD, DUKE OF BUCKINGHAM

Motive To claim the throne and his lost inheritance.

Oppotunity

Only possible while under

After Richard III, the Duke of Buckingham Henry Stafford is one of the earliest suspects for the murder. Buckingham had multiple links to the throne, but these were through the daughters of younger sons, making the chances of him claiming the crown very slim indeed.

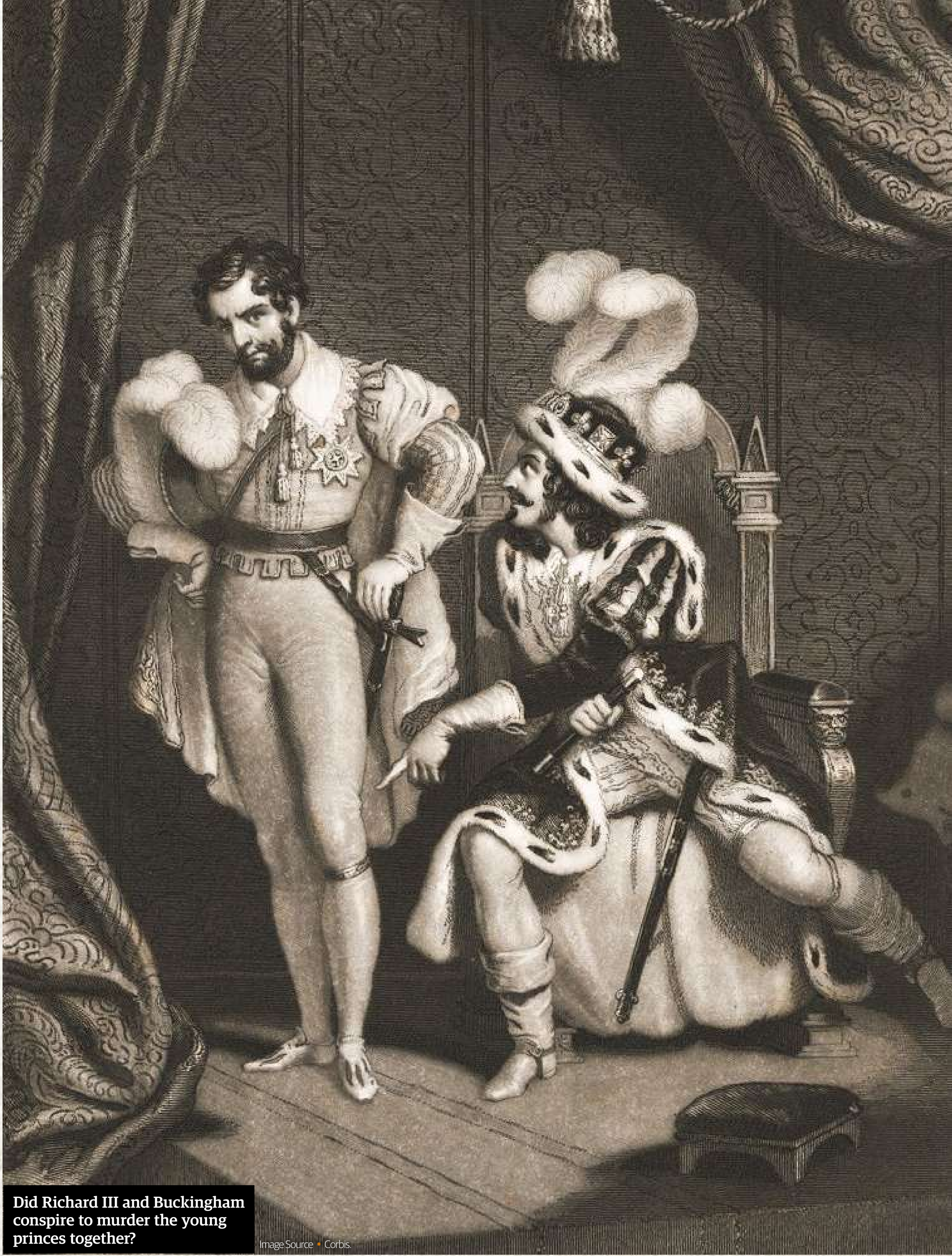
Despite his family fighting for the House of Lancaster in the Wars of the Roses, he went on to become the ward of Elizabeth Woodville, the wife of Edward IV. He was married to her sister, but this was not a happy union; he considered it an insult to be married to a woman of lower class and resented the Woodvilles from that point onwards. When Richard took guardianship of the young Edward, Buckingham was by his side. But what exactly did the duke have to gain from the princes' deaths?

One suggested motive is Buckingham's interest in the Bohun estate - worth some £1,100 annually. He had inherited the property from his great-great-grandmother Eleanor de Bohun, but Eleanor, and therefore Buckingham, only received half of the estate. Her sister inherited the other half and ended up marrying Henry IV. When Edward IV took the crown, the estate became crown property, but Buckingham insisted it belonged to him. This desire to reclaim his estate certainly explains why Buckingham supported Richard's ascension, but not why he might have killed the princes, for the simple fact that Richard granted him his inheritance in July 1483, pending parliamentary approval.

Instead, a very common motive for murder is given to Buckingham's actions: ambition. Buckingham had acted as kingmaker for Richard, aligning with him the moment he came into power and guiding his hand to the throne. He was as entangled in the events that led the children to their deathbeds as Richard himself. He held Richard's train and staff on his coronation, perhaps thinking that he may stand in that position soon enough. In order to achieve this, he placed Richard on the throne just to see him fall and killed the princes in the Tower either to begin a vicious rumour against Richard or to eliminate his first stumbling block to the crown. In the autumn of 1483, he unleashed an uprising against Richard that would eventually lead to both men's deaths.

Many have claimed that if he didn't act alone, Buckingham killed the princes on behalf of Richard, and the rebellion was a result of his disillusionment with his new king. It is impossible to prove whether Buckingham was acting out of guilt, ambition or malice when he led his rebellion. However, it seems peculiar that a man who knew the princes were dead would lead a rebellion demanding they be reinstated on the throne.

It was the rumours of their deaths that caused Buckingham to be replaced by Henry Tudor as leader of the rebellion. Perhaps strangest of all is the fact that when Buckingham was captured and tried, Richard did not accuse him of murdering the princes. With Buckingham at his mercy, it would have been the perfect time to implicate him for the murders he was aware he committed, clearing his own name in the process. But he did not.



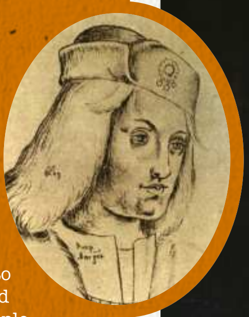
Did Richard III and Buckingham conspire to murder the young princes together?

Image Source • Corbis.

Pretenders of the throne

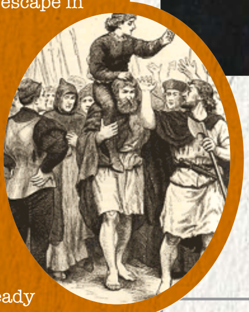
The princes' presumed murders didn't stop people coming forward claiming to be them

PERKIN WARBECK



Warbeck claimed he was Richard in the court of Burgundy in 1490, saying that he had been spared by his brother's murderers due to his young age, but swore to not reveal his identity. His claim was supported by Richard's sister, Margaret of York, and he gained support from various monarchs, most notably James IV of Scotland. However, after hearing the king's army was advancing towards him, he fled. He was eventually captured and taken to the Tower of London after being paraded through the streets to be made an example of. He was imprisoned alongside Edward, Earl of Warwick, the nephew of Edward IV and Richard III, and when the two of them attempted to escape in 1499, he was hanged.

LAMBERT SIMNEL

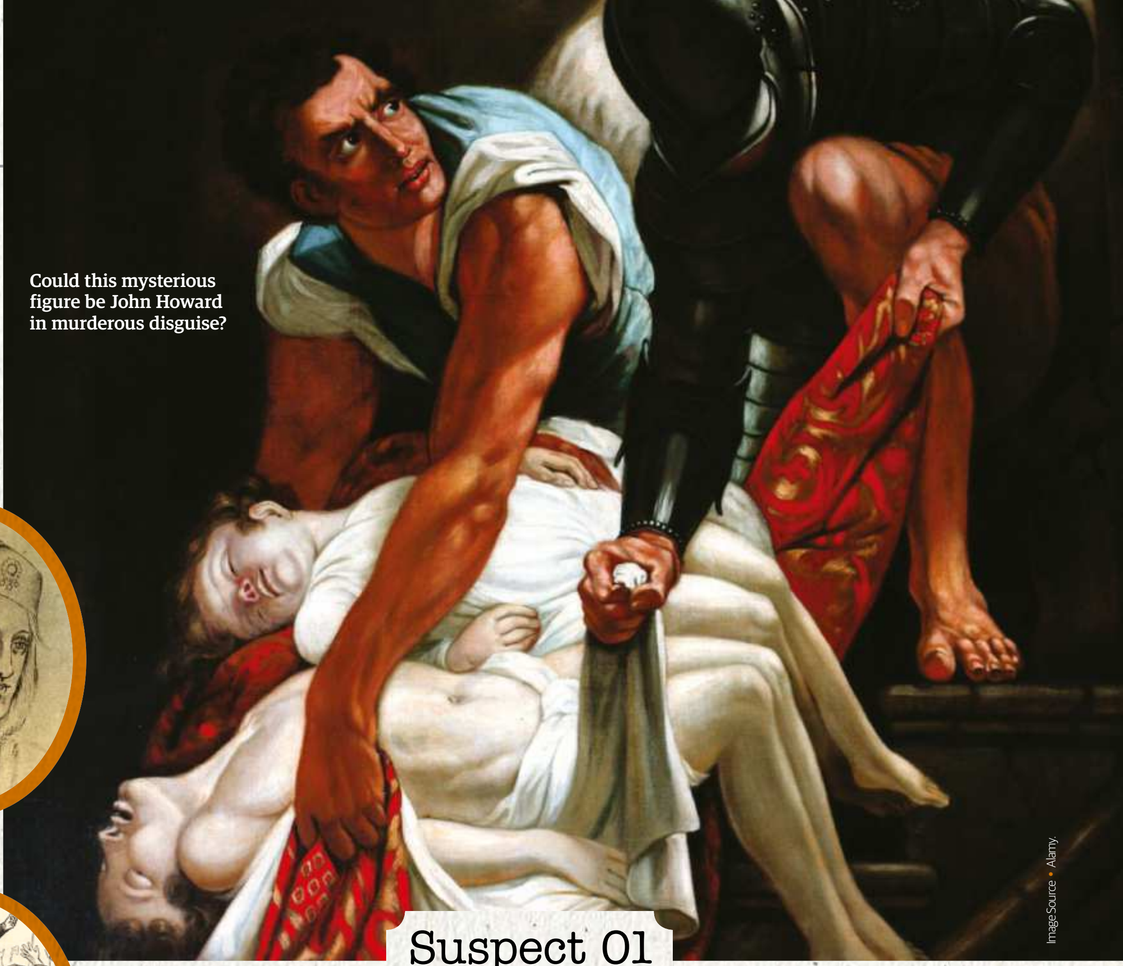


When the young Lambert Simnel was taken in by a priest named Richard Simonds, the man noticed the alarming similarity between the boy and the sons of Edward IV. He made plans to present Simnel as Richard, but when he heard that Edward, Earl of Warwick, had died in imprisonment, he changed his claim and declared him as the earl instead. With a rebellion already planned by the Yorkists, Simnel became the figurehead and gained support in Ireland. However, his army was defeated by the kings and due to his young age, Simnel was pardoned and given a job in the royal kitchen.

Image Sources • 1 Public Domain; PD-Art • 2 Public Domain; Encyclopedia Britannica, 11th Ed. Vol XXV. Cambridge: Cambridge University Press.

JOHN HOWARD
JOHN HOWARD

Image Source • Joe Cummings



Could this mysterious figure be John Howard in murderous disguise?

Image Source • Alamy.

Suspect 01

JOHN HOWARD, DUKE OF NORFOLK

Motive To claim his rightful inheritance

Oppotunity

Howard was yet another member of the aristocracy descended from royalty: Edward I on his mother's side and King John on his father's. He was a staunch supporter of the House of York and was knighted by King Edward IV. He slowly made his way up the ranks, even carrying the crown to Richard III at his coronation.

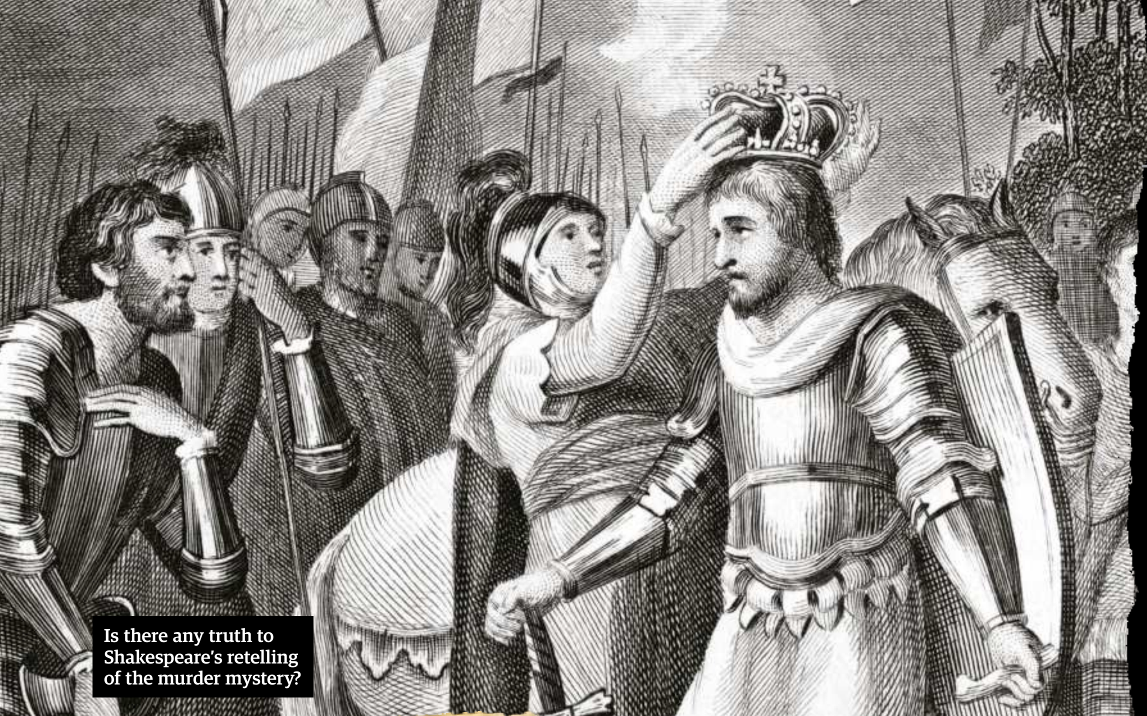
Howard's support of Richard alone isn't enough to accuse him of murder, but the benefits he apparently reaped because of his ascension certainly are. Just two days into Richard's reign, Howard received the lands and titles held by Richard of Shrewsbury. These lands, the 'Mowbray inheritance', had been given to Richard as 'compensation' after the death of his betrothed. This meant Howard was denied his inheritance, and had not been compensated at all for this loss.

Adding to this theory is the fact that it was Howard who encouraged placing Richard in the Tower with his brother – the Tower he was constable of. He was also devoted to Richard III, even dying on the same field as his king. If he had not acted alone to secure his fortunes, it is not impossible to believe he acted alongside the king – agreeing to do away with the boys as both a favour and a means to claim what was rightfully his.

> "HOWARD ENCOURAGED PLACING RICHARD IN THE TOWER WITH HIS BROTHER"

It seems Howard had both the means and the motive to commit the act, but this theory actually falls apart under closer scrutiny. Howard was not the all-powerful constable of the Tower – he held the second reversion of the post, making it unlikely he could do as he wished there. In this case, we have to believe that Richard allowed Howard access to the Tower, but in reality their friendship was not as great as it seemed. It is more likely that Howard's commitment was to the House of York, which had helped him ascend the social and political ladder, rather than to Richard himself. Such loyalty to a house at this time was a remarkable thing, and it is a little cynical to assume its source was shared blame for murder.

Most damning of all is his motive. If he did indeed wish to claim his lands and titles, he would have only had to kill the current owner – Richard of Shrewsbury. Why, then, would he also kill Edward V? The entire argument falls apart if we consider Howard only had 12 days to do away with them – the time between Richard's arrival at the Tower and when Howard was granted his estate. But both princes were reportedly seen after this date. Considering he had his title when they were seen alive, Howard really had no reason to kill them.



Is there any truth to Shakespeare's retelling of the murder mystery?

Image Source • Alamy

HENRY VII
HENRY VII

Image Source • Joe Cummings

Image Source • Joe Cummings

A deadly rumour

Margaret Beaufort, Henry VII's mother, is another name that has been linked to the murders, but a more compelling theory is that although she didn't kill them, she began the rumour that Richard did. With her focus on the interests of her son, Beaufort enlisted the help of Woodville and Buckingham to drive the autumn rebellion and place her son on the throne. The rumour of the boys' deaths and Richard's connection to it certainly started a domino effect that led to Henry VII's rule, and this very well may have been due to his mother, as the ultimate spin master, working behind the scenes to tarnish Richard's name and prompt people to flock to her son's side.

Suspect 04

HENRY VII

Motive Secure his hold on the throne

Oppotunity Access to the Tower upon becoming king

When Henry VII set his sights on the English crown, his claim was incredibly weak; there were almost 30 nobles with a more credible claim. He knew ascension would not happen through birthright, but instead conquest, and to achieve this he needed allies. He vowed to marry Elizabeth of York, daughter of Edward IV and elder sister to the two princes. By doing this, he gained the support of Lancastrians as well as disenfranchised Yorkists unhappy with Richard's reign.

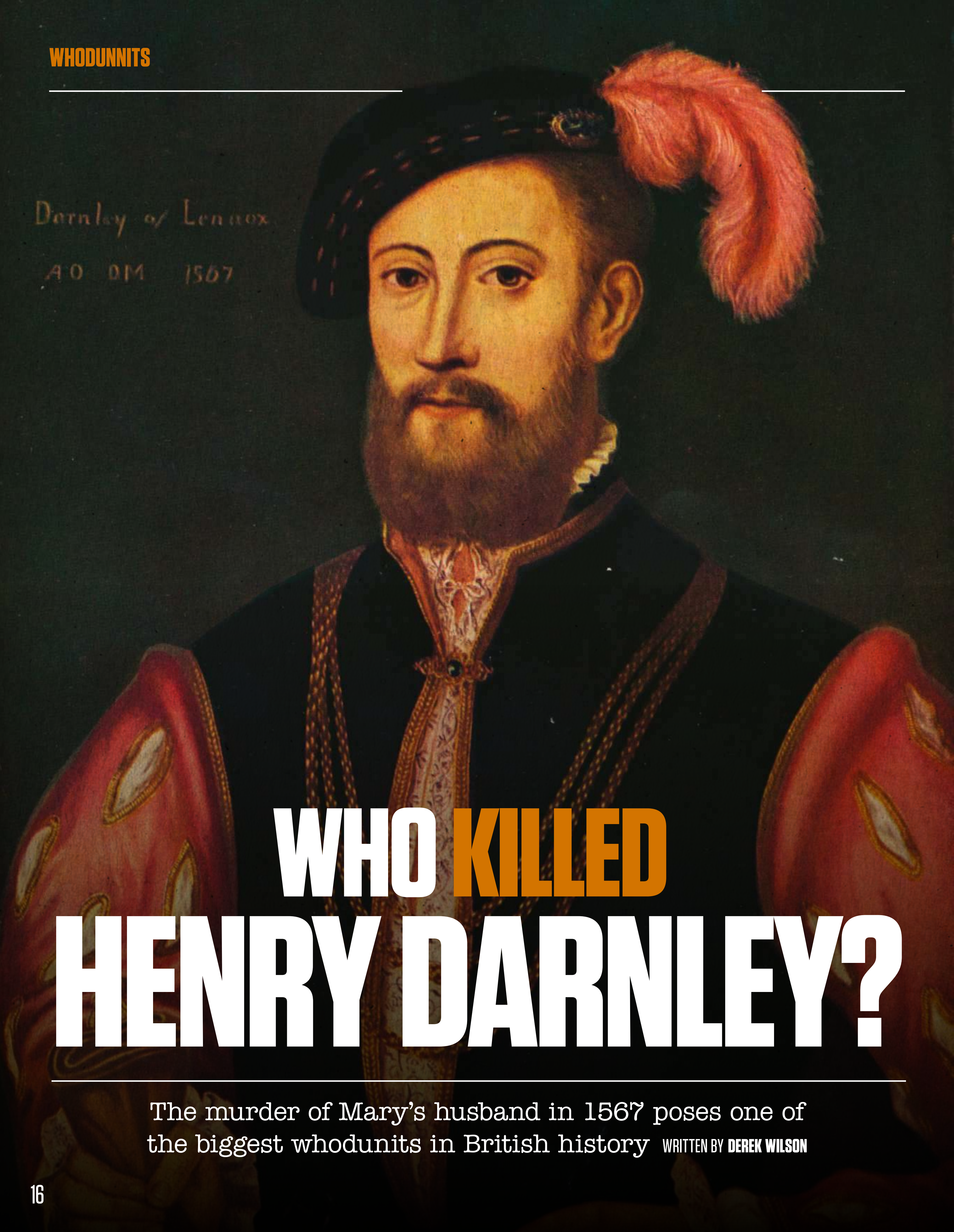
But once he became king after Bosworth and was set to marry Elizabeth, he encountered a problem. Richard III had declared Edward IV's children illegitimate in Titus Regius. Now that Henry was king, he could easily overturn it, which he did - even burning all copies to deny it ever existed. Although this returned legitimacy to his wife-to-be, it also meant the princes were the legal claimants to the throne. This left Henry with no choice - he had to have the princes killed, or lose his throne. It is argued that this happened not in 1483, as commonly believed, but in 1486.

> "HE HAD TO HAVE THE PRINCES KILLED, OR LOSE HIS THRONE"

This date is supported by Tyrell's confession, as he received two pardons from Henry in 1486. This is an unusual occurrence, and Henry would later proclaim that Tyrell had indeed confessed to the murders - and as Tyrell was Richard's loyal servant, it was easy for him to shift the blame on his predecessor. This theory is also supported by Henry's treatment of the princes' mother, Elizabeth Woodville, who was deprived of her lands and fees.

It is no secret that Henry made efforts to wipe out remaining Plantagenets, but it seems very unlikely that nobody would have mentioned the boys if they had survived three years longer than previously believed. For the early part of his reign, Henry faced constant rebellions from angry Yorkists; it is difficult to believe none of them would have accused him of this crime had it occurred during his time on the throne. Additionally, if they had survived until this date, why did Richard III not previously display them after being accused of their murder? This would have helped redeem his reputation and likely quell the rebellion, but he did not. It is also similarly unlikely that Elizabeth Woodville would have supported Henry's claim to the throne, as she did by agreeing to his marriage with her daughter, had she known her sons were still alive.

Most revealing of all is Henry's reaction when pretenders of the princes emerged. When Perkin Warbeck claimed to be the young Richard, Henry was so worried that he made peace with France to prevent a rebellion. His actions were those of a nervous man, unlike his confident response when Lambert Simnel emerged posing as the Earl of Warwick, who Henry knew was locked up in the Tower. This is a telling indication that Henry had no idea what happened to the princes. Considering Henry was 14 when he left England and didn't return until the Battle of Bosworth, it is more likely that Henry knew less about their fate than most; he never accused Richard of the act for exactly that reason. All Henry could do was assume and hope, for the sake of his throne, that they were dead.


Darnley of Lenaox
AO DM 1567

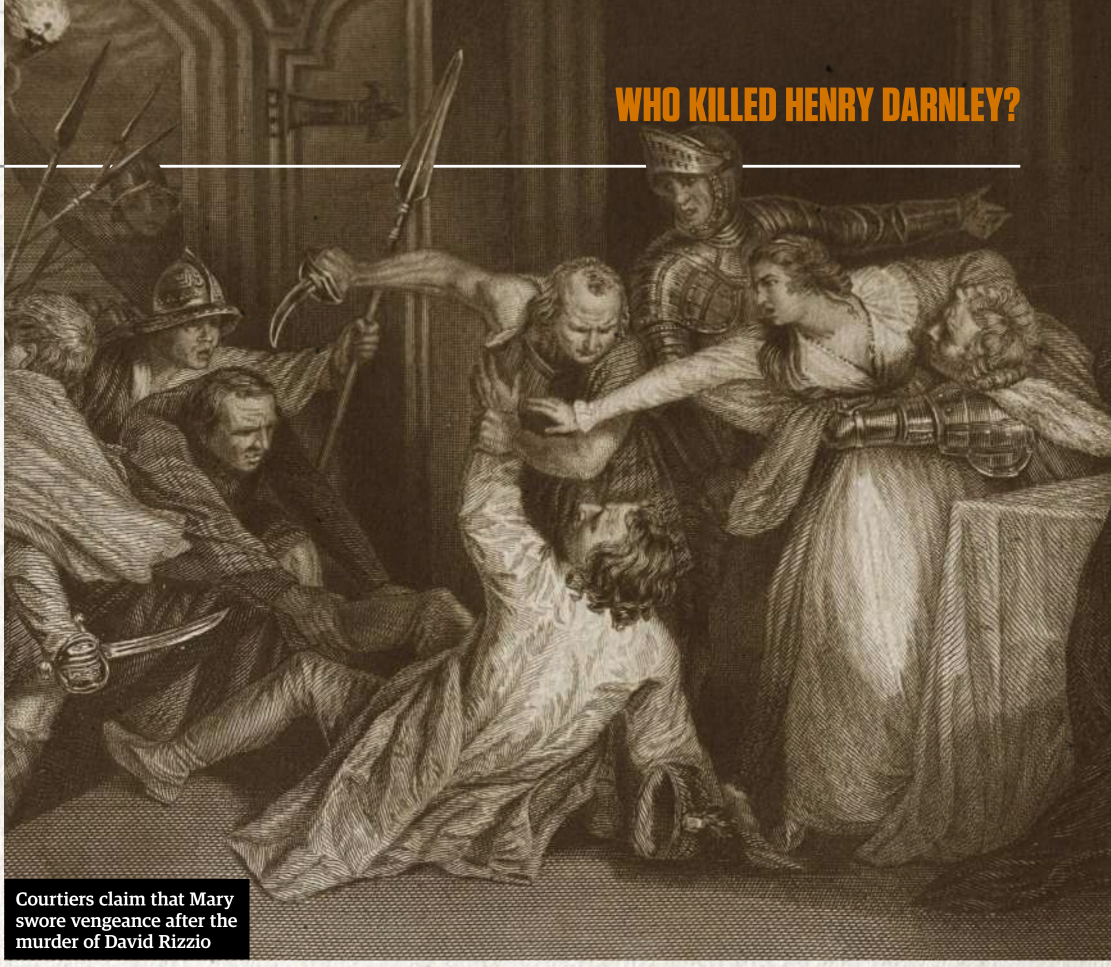
WHO KILLED HENRY DARNLEY?

The murder of Mary's husband in 1567 poses one of the biggest whodunits in British history

WRITTEN BY **DEREK WILSON**

In the early hours of 10 February 1567, a violent explosion ripped through the air in the area of Edinburgh's Cowgate. Those who rushed to the scene discovered that the provost's lodging of the church of St Mary in the Fields (Kirk o' Fields) had been reduced to a pile of rubble. That was terrible enough, but when people scoured the ruins in search of survivors, they came upon something much more sinister.

The church complex was adjacent to the city wall. In an orchard beyond the boundary, some 14 metres from the church, lay two bodies - one was that of Henry Darnley, husband of Mary, Queen of Scots. Had the royal consort and his body servant, William Taylor, been killed by the blast that had hurled them into the air? No, there were no marks or tears on their nightshirts that would certainly have been present if they had been killed in the explosion. Nor did the bodies show any other signs of violence. Further search of the area in the winter dawn produced a rope, a chair, a furred cloak and a dagger. This, in brief, describes the crime scene at Kirk o' Fields. The mystery it presented might have taxed the deductive powers of Sherlock Holmes. It has certainly produced many 'solutions' over the last four and a half centuries.



Courtiers claim that Mary swore vengeance after the murder of David Rizzio

Image Source • Getty Images

The first question to ask, and the one with which all Edinburgh was buzzing within hours, was 'cui bono'? This legal maxim, which translates as 'who benefits', proposes that the perpetrator of a crime is someone who stands to gain from it, enabling investigators to draw up a list of suspects. In seeking to discover who had reason to want Darnley dead, we need to consider the events preceding the murder.

Having fallen madly in love with Darnley two years before, Mary, Queen of Scots had married him in July 1565. It was a marriage made in hell; the handsome Darnley quickly flipped from the charming flirt to a controling, power-hungry husband. While Mary resisted his demands to grant him the Crown Matrimonial - meaning that he could remain king for life, even in the event of Mary's death - he became increasingly unstable and jealous. In May 1566, Darnley had arranged the brutal slaughter of one of Mary's closest friends and advisers, David Rizzio. Stabbed to death in front of her eyes, Italian-born Rizzio's murder was the last straw for the heavily pregnant queen.

> "THE HANDSOME DARNLEY QUICKLY FLIPPED FROM THE CHARMING FLIRT TO POWER-HUNGRY"

It had been less than a year since Mary had been forced to witness the vicious attack on Rizzio, and her attendants had heard her utter the word 'revenge'. However, over the ensuing weeks she had given the impression that she and her husband were reconciled. In June 1566, the queen gave birth to a son, the future James VI. Darnley was not present and only deigned to pay her a fleeting visit.

In the autumn she made a long journey on horseback to visit Hermitage Castle where her friend James Hepburn, Earl of Bothwell, lay ill, having been wounded in a border skirmish. Soon afterwards, Mary herself fell very seriously ill. She was close to death and, in agony of mind as well as body, she longed for it.

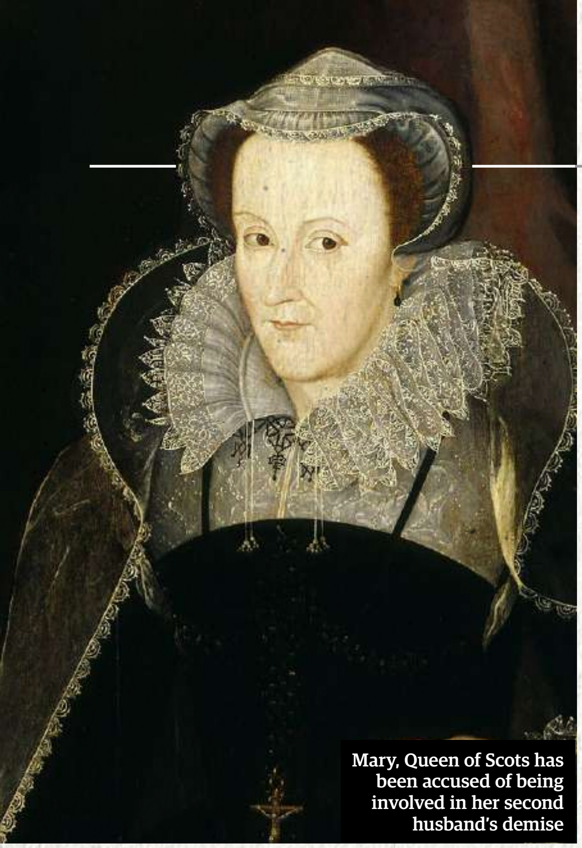
This scare gave the 'Darnley problem' a new political urgency. The consort had always wanted to be declared king in his own right and it was obvious that, if Mary died, he would seek to be regent during the minority of James VI and lay claim to greater powers than he currently enjoyed. Darnley did, in fact, at this juncture make further efforts to browbeat his wife. Mary and her councillors debated what should be done, considering - and rejecting - the possibility of divorce. An approach was made to Queen Elizabeth suggesting that, if Mary died, young James would be sent into England and brought up at the English court. Did Mary and her advisers also discuss a more sinister solution to the Darnley problem?

Darnley cannot have been ignorant of the council's hostility. He may even have suspected that something drastic was being planned - he certainly took great care of his security. His absence from his son's christening in December may have been more than an act of petulance. Certainly, in early January, he travelled to the home of his father, the Earl of Lennox, near Glasgow. Here, surrounded by hundreds of armed family retainers, he felt safe. Safe but not well. It was now Darnley's turn to fall ill - with syphilis. Yet there may have been more to his withdrawal from Edinburgh. Reports reached the Scottish queen that her husband planned to seize the prince, rule in his name and have Mary locked up. So thick was the air with plots and rumours of plots that it is impossible, now, to separate real conspiracy from fearful imagination.

With the situation becoming unbearably tense, the queen took the initiative. She travelled to Glasgow on 22 January 1567, taking care to be protected by a large armed guard. She went to her husband's bedside, aiming to get him away from his home territory and lodge him somewhere where he could be watched 24/7 and, if necessary, restrained. But was this all she had in mind? Darnley had his suspicions and it took all the queen's wiles, over several days, to persuade him to ride back with her. As to lodging, this seems to have been a compromise arrangement. He refused to return to Holyrood, partly for reasons of security and partly through vanity - his syphilis had brought him out in sores and postules and he did not wish to be seen in that condition. Thus, he chose Kirk o' Fields, on the edge of the city, where his treatment could be concluded with immersion in foul-smelling sulphurous baths. Darnley also felt secure in the knowledge that the chosen house belonged to Robert Balfour, brother of his friend Sir James Balfour. What he did not know was that the Balfours had changed sides. And, by the way, James Balfour was in charge of ordering gunpowder for the castle ordnance.

Darnley took up residence on 1 February. Mary remained at Holyrood but visited her husband frequently and made herself so agreeable to him that he could write to his father on the 7th that she "doth use herself like a natural and loving wife". His condition improved steadily and the disfiguring marks had so far disappeared that he could declare that he would return to the palace (about ten minutes' walk away) on the 10th. So, on the evening of the 9th the queen arrived with a bevy

Image Source • Getty Images


Mary, Queen of Scots has been accused of being involved in her second husband's demise

Above Image Source • Public Domain; National Portrait Gallery, NPG 429

> **"IF THE QUEEN IS EXONERATED, SUSPICION FALLS ON A SYNDICATE OF NOBLE COUNCILLORS"**

of courtiers in festive mood, all come to celebrate the invalid's recovery. Darnley pressed his wife to stay the night but she declined on the grounds that she had promised to attend the wedding festivities of two of her attendants. Thus, at around 11 o'clock, she took her leave. By this time, the cellar was well stocked with gunpowder.

So, was Mary Stuart up to her neck in the plot to murder her husband? Was she playing a deadly duplicitous game? She certainly had motive enough to want Darnley out of the way. She had opportunity, having engineered the victim's presence at Kirk o' Fields. And she had the means – not to do the job herself, but to fire up her noble councillors to do the dirty work for her. And she may have had yet another incentive – in the weeks and months that followed, observers were accusing her of a crime passionelle.

Working backwards from what followed after, they deduced that the queen had taken another lover, James Hepburn, Lord Bothwell. When, within three months of Darnley's death, Mary and Bothwell were married, people recalled the queen's visit to Hermitage Castle and concluded that by then they had become more than just good friends. What was the reason for the long ride through the border country, if not to plan the removal of the only obstacle to their happy union? The couple's post-murder behaviour was certainly ill-advised, but did it prove Mary's involvement in premeditated murder? No one in the whispering gallery of the court seems to have seen the Bothwell match coming before early spring of 1567.

And there is one other piece of evidence that stubbornly refuses to fit in with the theory that Mary was the driving force behind 'murder most foul'. It concerns Anglo-Scottish diplomacy at the highest level. Back in 1560, the Treaty of Edinburgh had put an end to Anglo-French rivalry in Scotland by ordering the removal of foreign troops from Scottish soil and the rejection of the sovereignty claims that had lain at the root of the conflict between the rulers north and south of Hadrian's Wall for generations. Mary, at that time married to the French dauphin, had always insisted that Elizabeth had been bastardised by her father, that his deathbed will was a forgery, and that, therefore, she was Henry VIII's closest relation. On her heraldic shield she quartered the arms of all three countries. She was furious at being forced to abandon her claim to Elizabeth's crown. Mary never accepted the Treaty of Edinburgh and kept her eyes fixed on establishing rule over the two kingdoms – either for herself or for her son. Her rival's disinclination to marry kept alive her hopes and she kept up a personal correspondence with her sister monarch.

It paid off. In 1566, Elizabeth, ceaselessly badgered by her ministers to secure the succession, proposed a new Anglo-Scottish treaty acknowledging Mary's claim as her own heir, subject to certain conditions. Mary joyfully accepted the terms and ordered her reply to be carried back to London. The date was 8 February 1567. The Kirk o' Fields atrocity finally and irrevocably torpedoed her dynastic dreams. Even if she had been a party to the plot, would she have allowed it to go ahead with so much at stake? Mary's immediate reaction to news of her husband's murder was shock horror, partly because she feared (or claimed to fear) that she might have been an intended victim. She offered a massive reward for information and even a pardon to any conspirator who would inform on his accomplices. Genuine response or well-rehearsed performance?

If the queen is exonerated, suspicion falls on a syndicate of her noble councillors, acting without her knowledge. Who were they; what were their motives; what did they stand to gain from this atrocity? The significant political players were three Ms: Moray, Morton and Maitland. James Stewart, Earl of Moray, was an illegitimate son of James V and, therefore, Mary's half-brother. Before the Darnley marriage he was the queen's most trusted adviser. Thereafter, he was sidelined. As a Protestant, he hated Darnley's pro-Catholic policies and had been forced to spend several months as an exile in England in 1565-66.

James Douglas, Earl of Morton, was another pro-English Protestant. He had been Mary's Lord Chancellor but had become implicated in the Rizzio murder that had been instigated by Darnley, who subsequently changed sides and dumped his co-conspirators. Morton, too, had taken refuge south of the border and only returned early in 1567. William Maitland was Mary's trusted secretary and ambassador to the English court. He, too, had been caught up in the Rizzio murder but had not forfeited Mary's trust. He was devoted to his mistress and to the English alliance and he saw that Darnley was the obstacle to the peace and security of the queen and the realm.

And then there is Bothwell. He was the archetypal philanderer/adventurer who, in the language of a later era, would have been called a 'cad'. In his 20s he had married a Norwegian noblewoman and swiftly run through her fortune. In 1566 he had married (presumably bigamously) Jean Gordon, daughter of the earl of Huntly. Yet within months this Scottish Lothario was practising his charms on the queen herself with evident success – within days, Bothwell was being identified as the principal agent of Darnley's murder. While the Earl of Lennox demanded a trial for Bothwell, activists went about the capital posting placards denouncing Bothwell. But the suspect was – for the time being, at least – secure.

Among the political leaders of the nation there was a general sense of relief that Darnley was no more. Whatever Morton and Maitland knew, they gave Bothwell their open support and the queen was rapidly coming under his spell. Little did she know, she had jumped from the frying pan and into the fire. Bothwell was as much a braggart and bully as Darnley but she could not or would not see it. She loaded him with honours and consented to Lennox's demand for a trial before the privy council. It took place on 12 April and was a travesty of justice. Edinburgh was swarming with the armed retainers of Bothwell and others who had good reason for not wanting the truth to come out. Lennox and his supporters did not dare enter the city to present their evidence. The 'not guilty' verdict was a foregone conclusion.

So, we have our list of suspects. One of them was acquitted in a legal process that does not bear examination. All of them have come before the bar of public opinion, both in their own day and over

Image Source • Public Domain; British Library, Mechanical Curator collection.

the intervening centuries. None of the individuals at the centre of the affair (with the exception of Darnley's family) made a serious attempt to unravel the Kirk o' Fields mystery either because they were, in one way or another, involved or because they shared the conviction that ridding the world of Henry Darnley was a wholly laudable act that didn't justify solving.

One reason why the murder remains a mystery is that no proper inquest was ever carried out. This means that not only do we not know whodunnit, but we also don't know how it was done. What can we, therefore, deduce about the extraordinary events of 10 February 1567?

Fact 1: Several people escaped from the building. Detonating a bomb in someone's house is not a fail-safe way of killing the intended victim. There were several residents in the provost's lodging that night, mostly servants. Apart from Darnley and Taylor, it appears that only two others died in the blast. The perpetrators of the crime must have known that there was a chance Darnley would survive. From their point of view, a failed attempt would have been worse than no attempt at all. It would actually have strengthened Darnley's position, putting him on his guard and instigating a vigorous search for his attackers.

Fact 2: Darnley and Taylor were murdered before or after the explosion. Since there were no marks on their bodies it was assumed at the time - probably correctly - that both men had been smothered or strangled.

Fact 3: The location of the bodies was wrong. It is very unlikely that, amid all the falling rubble, they would have been thrown clear and right over the city wall.

Fact 4: An odd assortment of items were found at the site with the bodies - a chair, a rope, a knife and a cloak.

Fact 5: There were witnesses. Two women living in houses nearby were roused by the bang, looked out and saw a group of well-dressed men of obvious rank hurrying past. When they were examined at Bothwell's trial, they were not pressed for details and were quickly dismissed as blabbing fools, an act that has a distinct odour of fish!

We can juggle these facts, as chroniclers have over the centuries, and come up with a variety of scenarios. The two men escaped but were tracked down and killed in the garden. The criminals intended to lynch Darnley - hence the chair and rope - but had to improvise another means of murder at the last moment. The victims were despatched in their chamber, then carried to the place where they were found. The explosion was merely a diversion enabling the culprits to do the deed and then escape in the confusion.

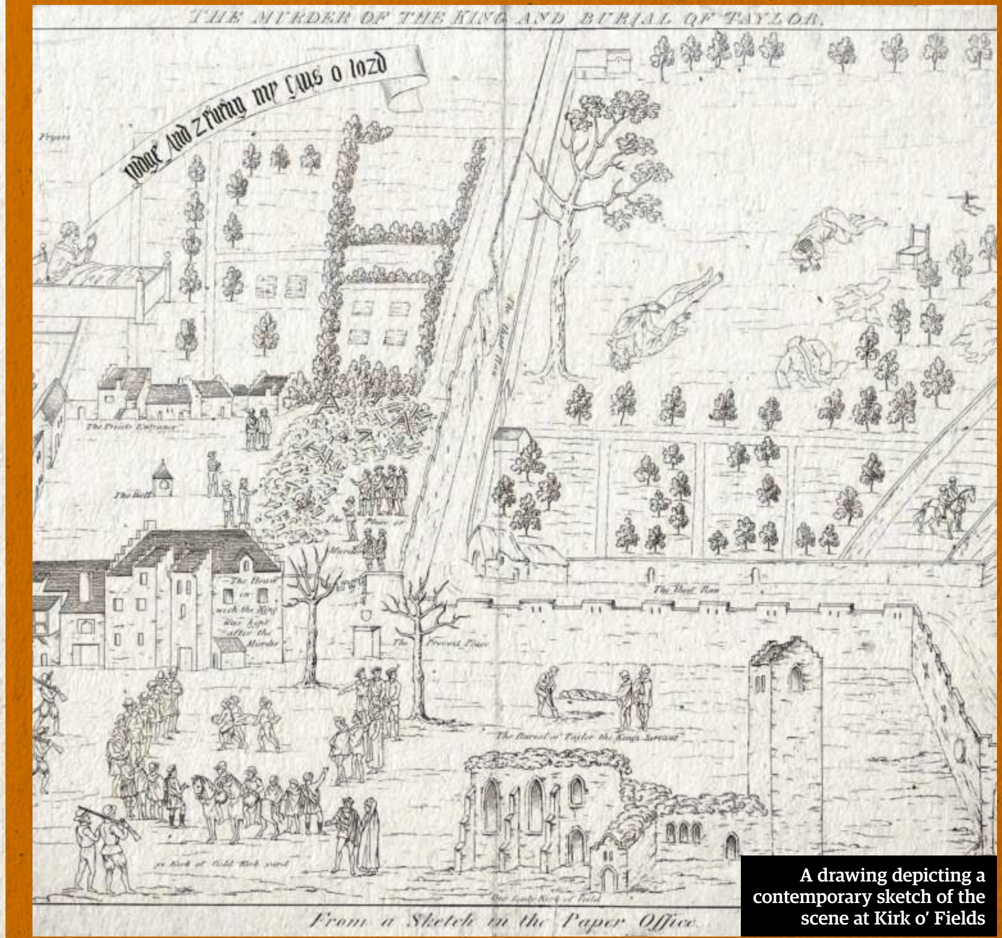
None of these 'solutions' deal satisfactorily with all the known facts. Perhaps it is that that provides, if not the solution, at least a fuller explanation. None of the tidy versions make sense because there was nothing tidy about this desperate deed. The original plan was botched. Once the slow fuse had been lit in the cellar, it would only take one detail to go awry for hurried or panicked improvisation to take over. The Kirk o' Fields mystery remains just that - a mystery, and if we believe we can tie up all the loose ends, we deceive ourselves. What matters more from a historian's point of view are the consequences. What should have been the end of Mary Stuart's problems was, in fact, their beginning. The Kirk o' Fields atrocity and Mary's reaction to it destroyed her credibility. The path from Darnley's murder to the queen's abdication was short and slippery.

Drawing of a murder

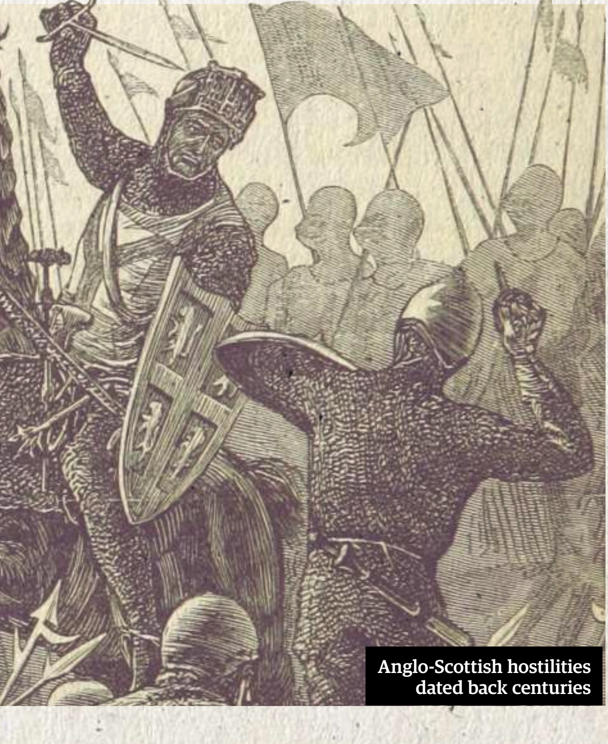
The sketch sent to Cecil in the aftermath of the murder was something between a groundplan, a graphic narrative and a political statement. It mapped out the buildings – the church and the adjacent houses. It showed their relationship to the nearby streets and the city wall.

The pile of debris that was the provost's lodging is clearly shown. A crowd watches as Darnley's body is carried away but no onlookers are present at his burial. A third of the picture is taken up with the scene in the orchard where the two bodies are depicted much larger than all the other figures.

To the right, a group of horsemen appear – presumably the conspirators making their escape. Filling the top left-hand corner there is a poignant vignette of Darnley's infant son, the future James VI, sitting up in his cot and praying, "Judge and avenge my cause, O Lord." The picture conveys different aspects of the tragedy. While the unlamented Darnley is laid to rest in one corner, his now fatherless child cries for revenge – he was, of course, too young to do any such thing. Whatever contemporary Scots felt about the removal of Darnley, there is no doubting that the manner of his death made an impact on them all.

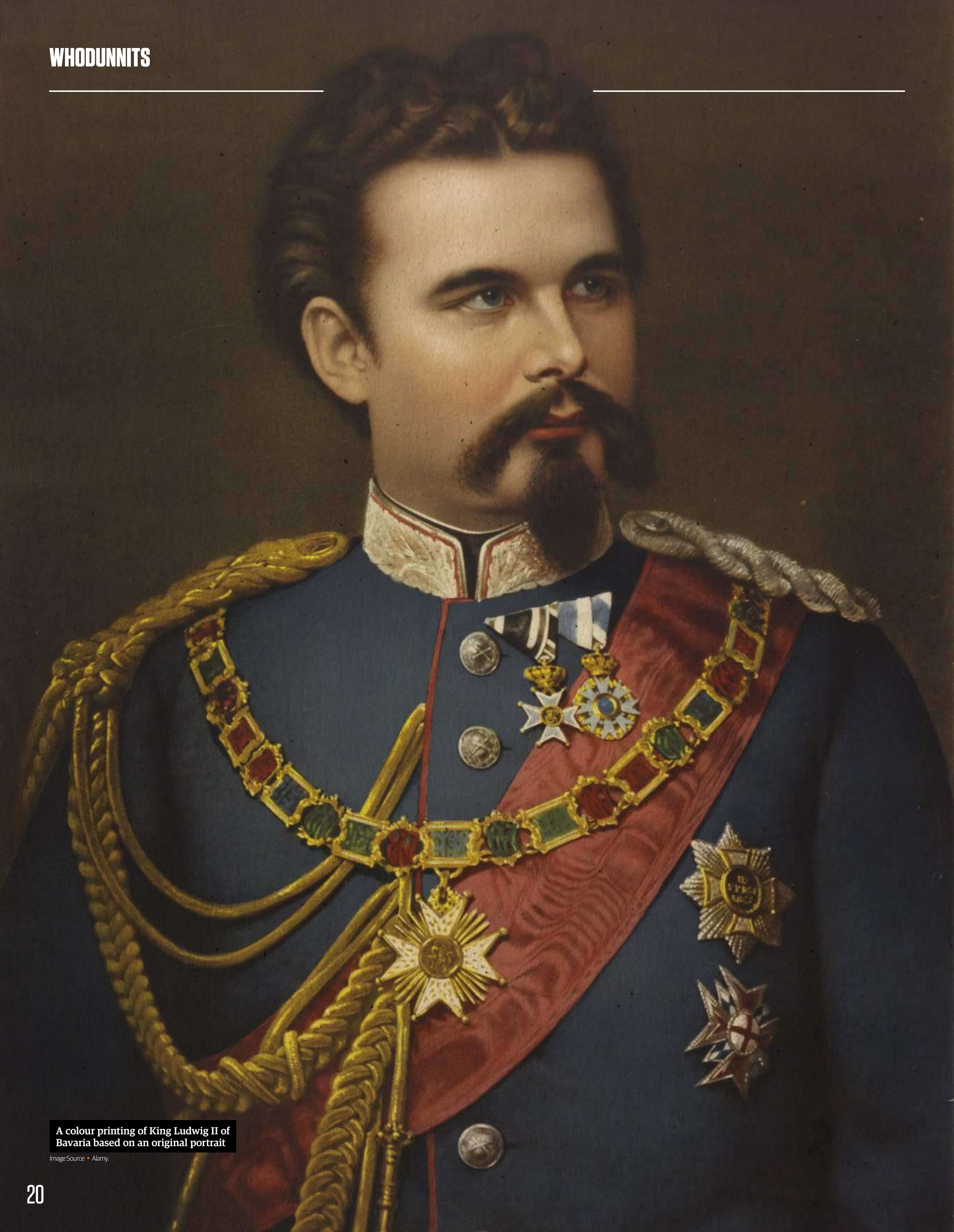

THE MURDER OF THE KING AND BURIAL OF TAYLOR.
Judge and avenge my caus o lord
From a Sketch in the Paper Office.

A drawing depicting a contemporary sketch of the scene at Kirk o' Fields



Anglo-Scottish hostilities dated back centuries

Image Source • Alamy



A colour printing of King Ludwig II of Bavaria based on an original portrait

Image Source • Alamy.

THE MYSTERIOUS DEATH OF LUDWIG II

What happened to the mad king of Bavaria?

WRITTEN BY **ANN MARIE ACKERMANN**

A disturbing history swirls under the placid surface of Bavaria's Lake Starnberg. King Ludwig II and a psychiatrist/expert witness met their untimely deaths in the waist-deep water of the lake in 1886, and no one knows exactly how. Some Bavarians say it was a suicide; some say it was an accident; others say murder. Over 130 later, we know a little more about Bavaria's greatest unsolved mystery. Historians have rooted the archives and modern forensic analysis has dissected the evidence, so what can we now say about that fateful night of 13 June 1886?

Ludwig's downfall began in part with his character and in part with his debts. Even as a young prince, he withdrew into his own fantasies, and art, music and architecture interested him far more than government ever could. Once he became king in 1864 at the age of 18, those character traits found their expression. Ludwig's patronage of Richard Wagner likely saved the composer's music career, while the crown jewels of Bavaria's royal architecture were Ludwig's legacy: he built Neuschwanstein, Linderhof, and Herrenchiemsee, now three of Germany's most popular tourist destinations, with the former cited as Walt Disney's inspiration for *Sleeping Beauty*'s castle. He also planned three more palaces, but by 1885 he'd accumulated massive private debts, which his uncle, Luitpold - next in line to the throne - agonised about inheriting.

Increasing doubts about Ludwig's ability to rule focused on mismanagement of money, and his attempts to find additional funding crossed the line into criminal conduct. Never married, Ludwig became more and more isolated. Rather than meeting with his ministers in Munich, he

Neuschwanstein Castle, where Ludwig was seized

Image Source • Public Domain; Library of Congress's Prints and Photographs division.

much preferred living in his fairy-tale palaces, running the government by correspondence.

By 1885, a crisis developed in Ludwig's cabinet. Luitpold and the Bavarian ministers came to an agreement: Ludwig's rule needed to end, and there was only one way to do it. The Bavarian constitution didn't provide for a king's impeachment based on mis-, mal- or nonfeasance, but it allowed for a king's removal if a disability lasting longer than a year prevented the performance of his duties. In March 1886, the cabinet asked Doctor Bernhard von Gudden, Germany's most prominent psychiatry professor, to make a diagnosis and prognosis. It was the beginning of the end for both the king and the doctor, although neither of them could have known it at the time.

The medico-legal question Doctor Gudden addressed was not whether the king was insane, but whether he was capable of ruling – the two standards were very different. Under the Bavarian law, incapacity to act under private, civil law would have, of necessity, deemed a person unfit to rule. But the converse wasn't true. Because ruling a country required special skills above and beyond daily living, the legal definition for incapacity to govern cast a wider net, which gave Doctor Gudden more latitude in making his diagnosis.

The ministers collected witness statements and documentary evidence for Doctor Gudden to prove Ludwig incompetent, but it was a one-sided affair. They even fished correspondence and orders from the king's waste bin. On 8 June, without evaluating exculpatory evidence or examining the king, Doctor Gudden's team diagnosed Ludwig with chronic paranoia that interfered with his ability to rule. Luitpold took the reins of the government as prince regent and ordered for Ludwig to be arrested and confined for medical treatment.

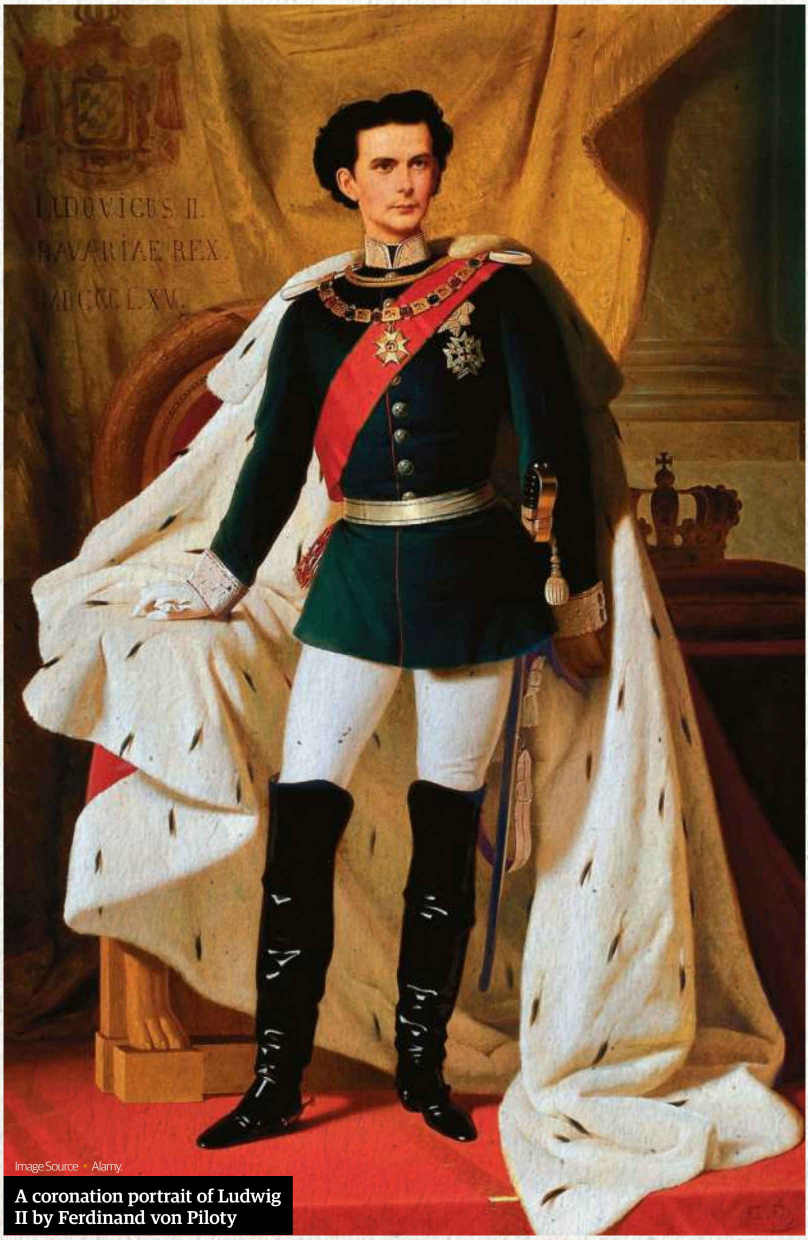

LUDOVICUS II.
BAVARIAE REX.
MDCCCLXV

Image Source • Alamy.

A coronation portrait of Ludwig II by Ferdinand von Piloty

In the early hours of 12 June 1886, a government commission seized Ludwig at Neuschwanstein and transported him to Castle Berg on the shores of Lake Starnberg. To prevent his escape, medical personnel removed the door handles from his room and barred the windows. Gendarmes patrolled the grounds. The adjacent town of Berg was put under martial law; the police forbade citizens to leave their homes after dark.

Although Doctor Gudden acted as an expert witness, he and his team of doctors nevertheless developed a treatment plan emphasising rest, social contact, and regular exercise with walks. Ludwig offered no resistance and by all appearances was a cooperative patient. But that may well have been a ruse.

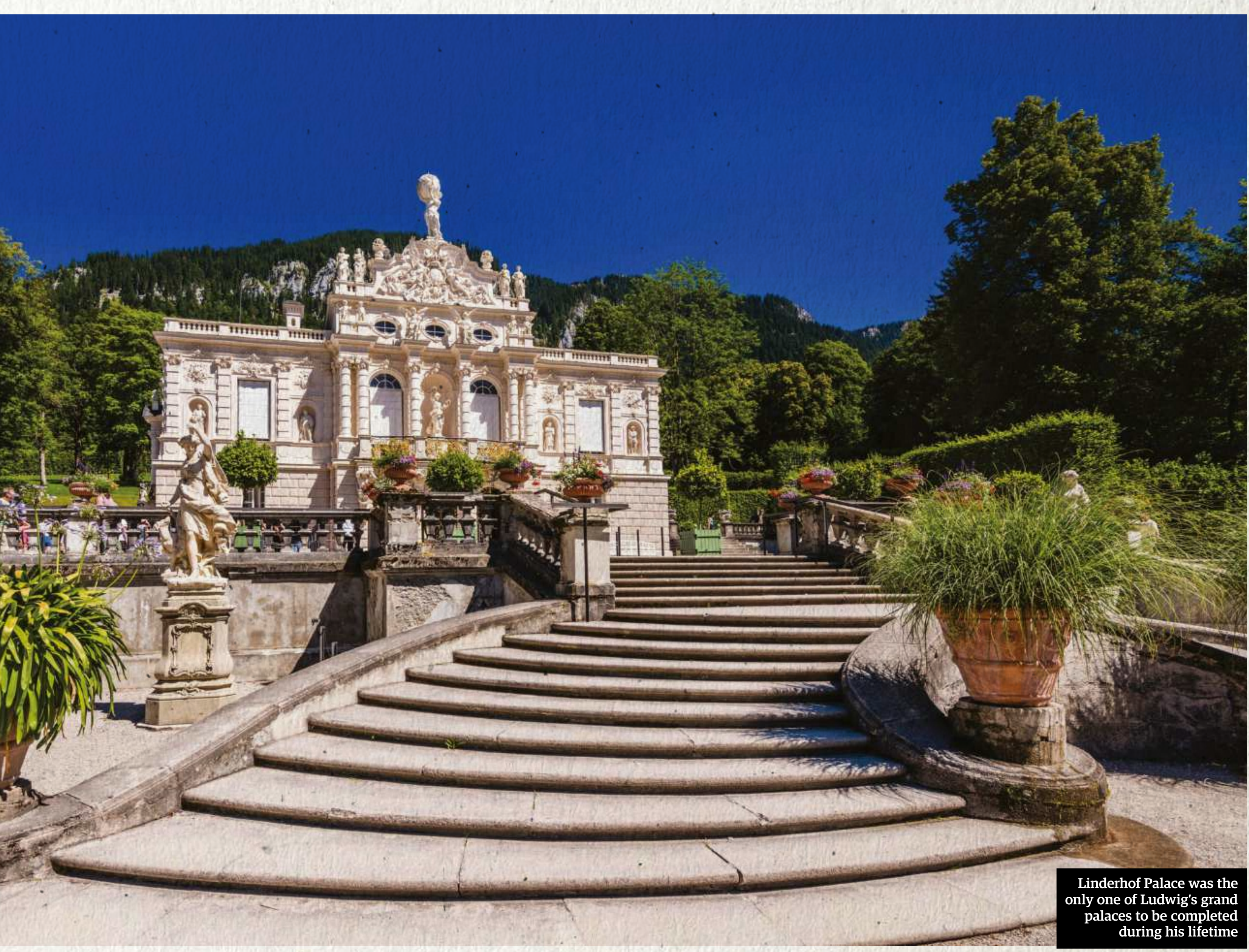
> “WHEN THE CLOCKS STRUCK MIDNIGHT IN MUNICH THAT NIGHT, SEVERAL SOLDIERS AND PALACE SERVANTS SWORE THEY SAW A GHOST”

When the clocks struck midnight in Munich that night, several soldiers and palace servants swore they saw a ghost flitting through both Ludwig's place of confinement, which had been the traditional home of the Bavarian royal family in Munich, and through the ancestral portrait gallery in the Schleissheim Palace. According to legend, the palace spectre – a black-clad lady – was a messenger of death. It's unclear whether either king or doctor had any inkling, but they now had only a few hours to live.

Doctor Gudden and Ludwig's first walk that morning, on 13 June, passed without incident. They strolled through the castle grounds along the lakeshore, followed by a male nurse for security. Around 6.30pm, they set off for another walk despite bad weather. It was the last either would ever take. This time, Doctor Gudden asked the nurse not to accompany them. His request puzzles historians today because it violated his own psychiatric standard of care.

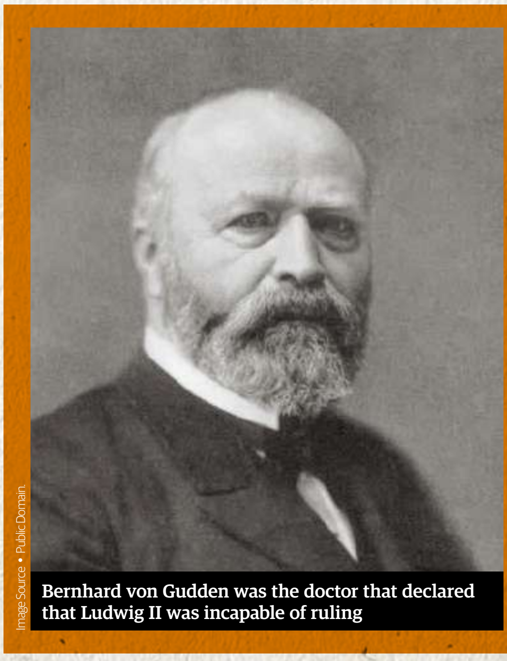
When the king and physician didn't return to Castle Berg as planned, the castle personnel and gendarmes launched a search. At 10.30pm, the party found Ludwig's two overcoats and an umbrella between the path and the lake. Next, it found both their hats bobbing in the water on the shoreline. Fearing that the king and the doctor might be in the water, a doctor and the castle steward ran back to town to fetch a local fisherman to row them out to the scene. Between 20 to 25 paces from the shoreline, they found the bodies of Ludwig and Doctor Gudden floating next to each other face down in the water, their backs bobbing above the surface.

The search party's doctor started artificial resuscitation on the king as soon as the bodies



Linderhof Palace was the only one of Ludwig's grand palaces to be completed during his lifetime

Image Source • Alamy



Bernhard von Gudden was the doctor that declared that Ludwig II was incapable of ruling

Image Source • Public Domain

Was Ludwig II really insane?

Declared unfit to rule without a psychiatric evaluation, the king might not have been as mad as history made him out to be

Was the mad king of Bavaria as insane as he's made out today? Probably not. There are three reasons why. First, Doctor Gudden's expert opinion violated ethical standards. No psychiatrist may render a diagnosis without first examining the patient. A doctor must take care that evidence supporting a diagnosis is as objective as possible. Physicians followed those tenets already in 1886. In contrast, Doctor Gudden based his diagnosis on evidence gathered by Bavarian ministers opposed to Ludwig and didn't take contradictory opinions into account.

Second, some of the evidence put forth for Ludwig's insanity in 1886 wouldn't meet psychiatric standards today. His dream of building a flying machine proved realistic within two decades of his death. Had Ludwig lived another 17 years, he would have seen that dream realised in the Wright brothers' aeronautical experiments. Photographs of Ludwig contradict Doctor Gudden's claims of small brain and head sizes, which 19th-century scientists took as evidence of mental deficiency. Ludwig's head size appears normal in photographs, a modern physician says. Post-mortem dehydration would account for the slightly smaller-than-average brain size found at autopsy.

Third, a German psychiatry professor reviewed the evidence and disagrees with Doctor Gudden. Doctor Heinz Häfner says Ludwig II was fit to rule. He managed his administrative and political duties until the day he was deposed. Häfner did find evidence of a narcissistic personality, which, he claims, is common among royals, but the disorder wouldn't have interfered with Ludwig's ability to rule. A bout of meningitis in Ludwig's infancy likely caused the spot of calcified scar tissue found in the membranes covering his cerebrum in autopsy. That scarring probably produced his headaches, insomnia, and an altered sleep schedule, but cannot be seen as evidence of psychiatric illness. Another autopsy finding concerned a lack of teeth. Ludwig was missing all his upper teeth and most of his lower. He wore dentures, which would've made speaking and eating uncomfortable, Doctor Häfner claims, and would have accounted for the king's social withdrawal toward the end of his life.

The theories of Ludwig's death

Four theories were put forward to explain the king and his doctor's death

Black Footsteps

The investigating magistrate's crime scene inspection the morning after the deaths revealed a double set of footprints leading from the shore and converging at the end of the gravel bed, marked in black. After that point, drag marks from the bodies' feet indicate the direction in which the bodies floated.

Blue Footsteps

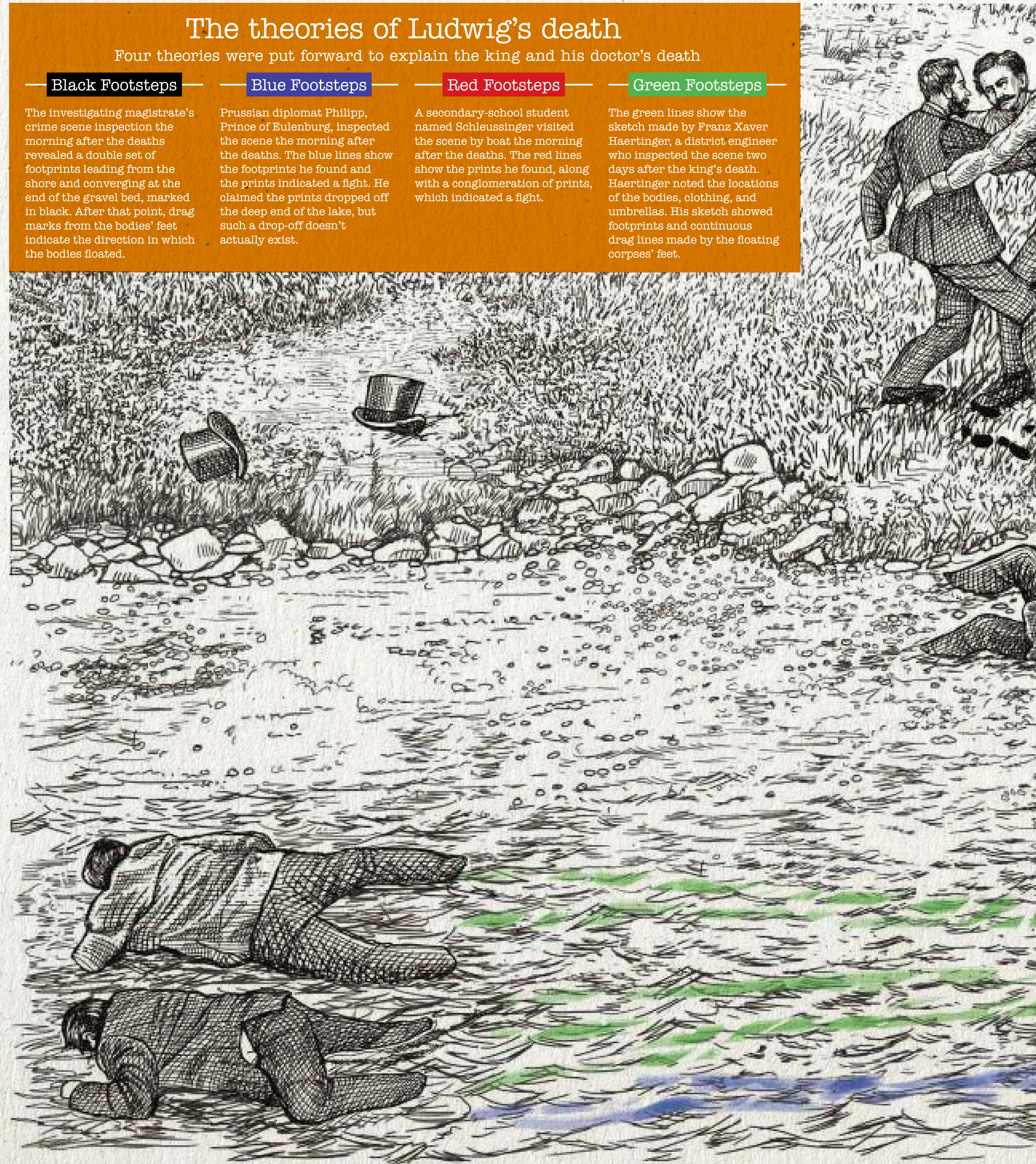
Prussian diplomat Philipp, Prince of Eulenburg, inspected the scene the morning after the deaths. The blue lines show the footprints he found and the prints indicated a fight. He claimed the prints dropped off the deep end of the lake, but such a drop-off doesn't actually exist.

Red Footsteps

A secondary-school student named Schleussinger visited the scene by boat the morning after the deaths. The red lines show the prints he found, along with a conglomeration of prints, which indicated a fight.

Green Footsteps

The green lines show the sketch made by Franz Xaver Haertinger, a district engineer who inspected the scene two days after the king's death. Haertinger noted the locations of the bodies, clothing, and umbrellas. His sketch showed footprints and continuous drag lines made by the floating corpses' feet.



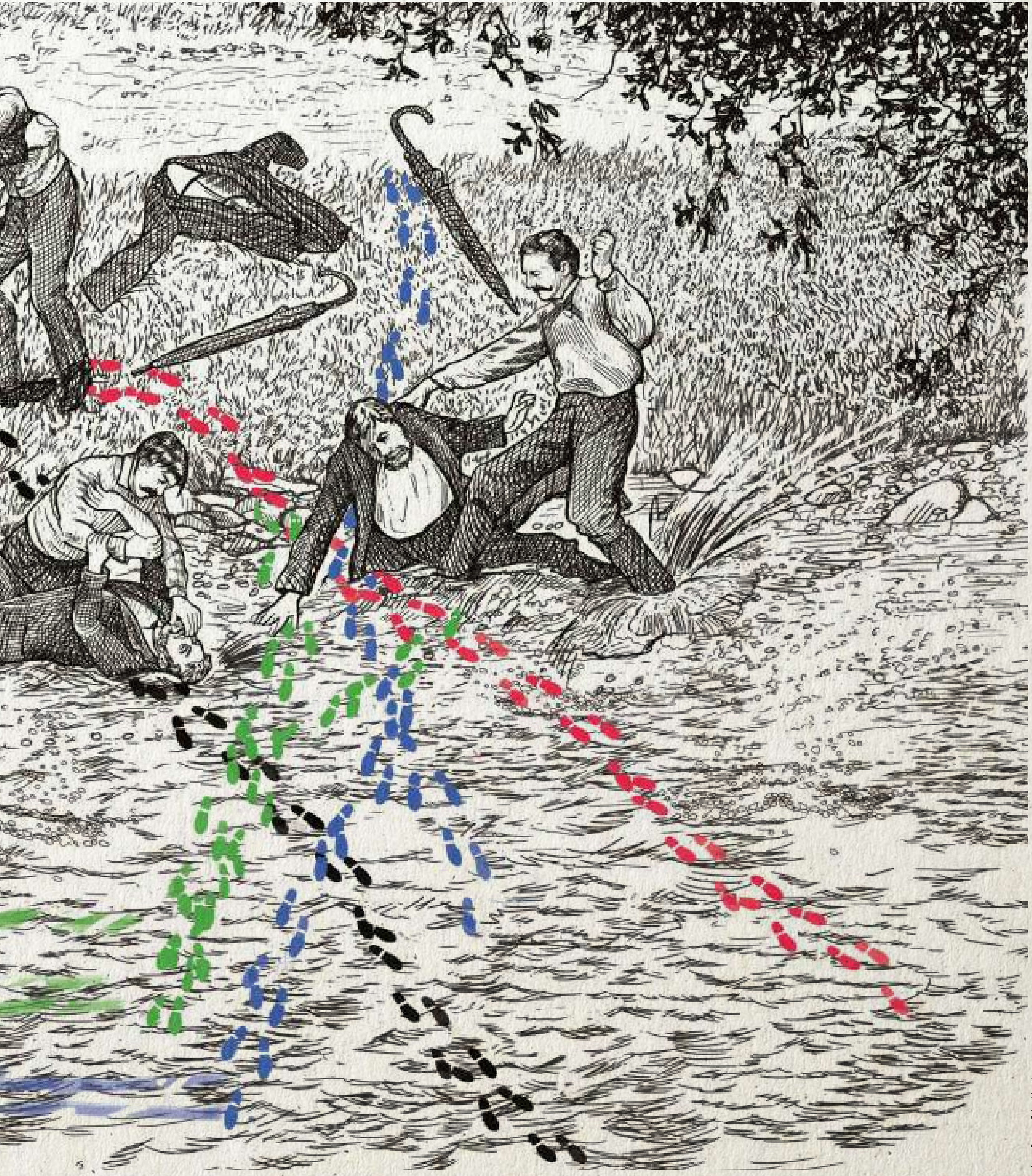
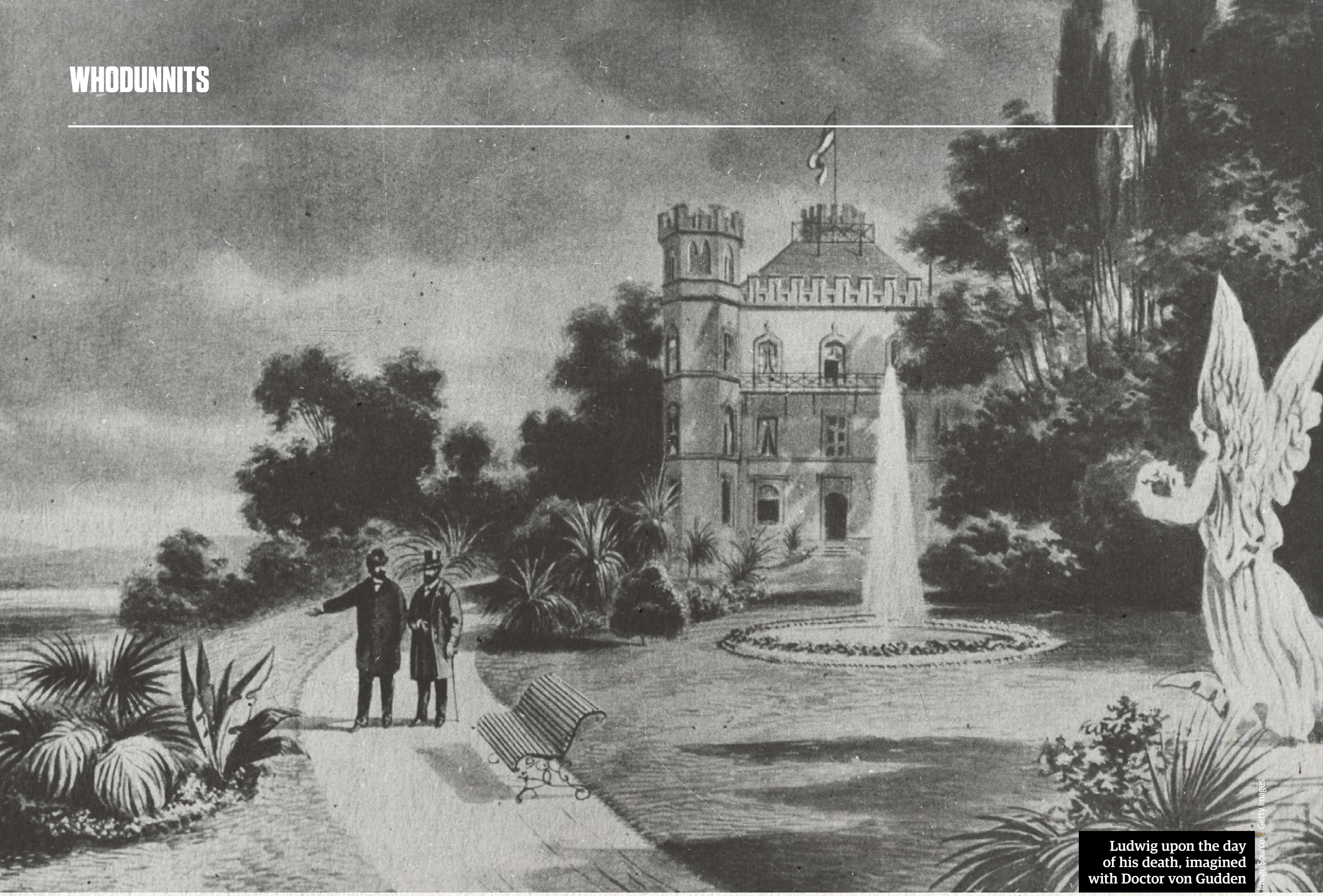


Image Source • Robert Venables

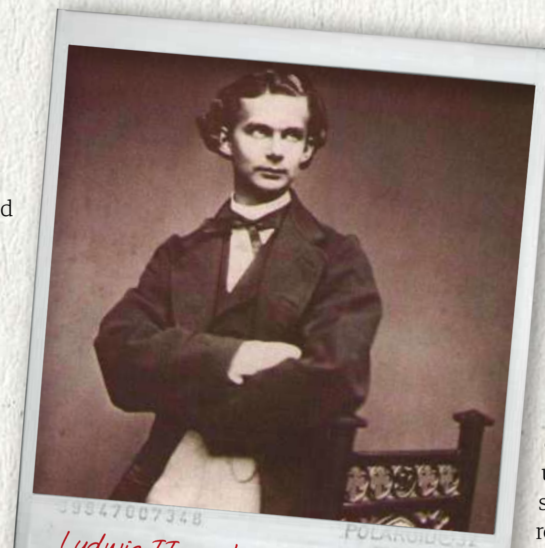


Ludwig upon the day of his death, imagined with Doctor von Gudden

Image Source • Getty Images.

were pulled aboard the boat. Once they'd paddled ashore he continued resuscitation until signs of rigor mortis set in. He pronounced both men dead at 11.35pm. Their bodies were laid out at Castle Berg overnight. Ludwig's pocket watch had stopped at 6.54pm and Doctor Gudden's at 8.06pm.

An autopsy performed on Ludwig two days later didn't reveal the cause of death – aside from a scrape on the knee, the body had no visible injuries, and his lungs contained no water. No autopsy was performed on Doctor Gudden, but physicians who made an external examination of his body found a lump above his right eye and scratches on his nose. Doctor Gudden was also missing part of a fingernail that an investigating magistrate later found on Ludwig's overcoat. Those injuries, the magistrate concluded, pointed to a fight between the king and the doctor.



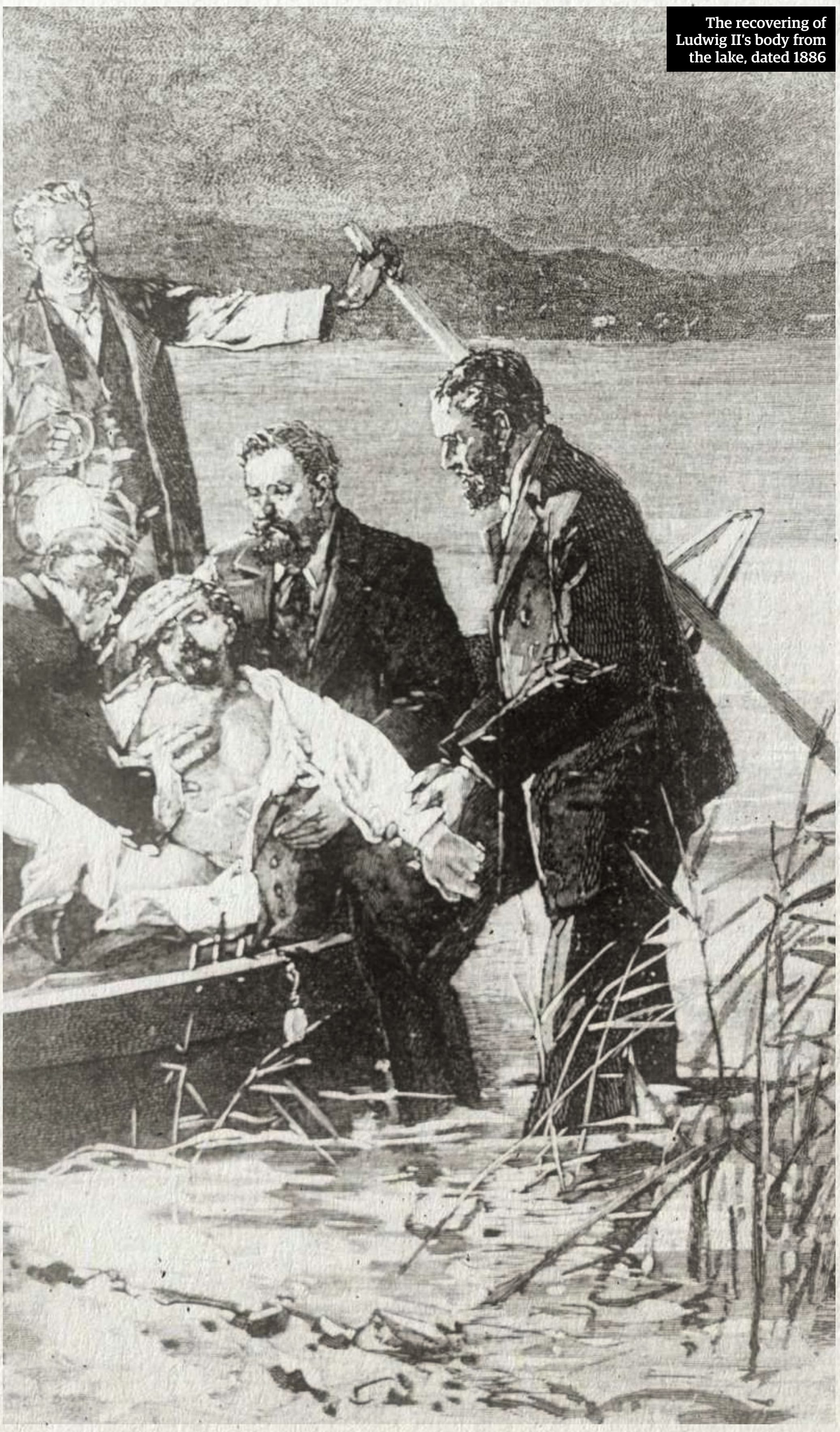
Ludwig II as photographed while at Hohenschwangau Castle, Bavaria

Police made no attempt to cordon off the death scene from onlookers. Over the following days, curious spectators descended on the shore of Lake Starnberg from both land and water, looking for footprints and other clues to shed some light. One of them found a second umbrella near the first. While some spectators held official roles in the investigation of the deaths, others did not, and a visiting Prussian diplomat and a school student also described what they thought were the king's footprints. Each came up with a different scenario.

The value of the crime scene sketches is questionable. Wind, wave action, and the footprints of onlookers and investigators might have compromised the scene. It's also curious that the witnesses claim to have found trails crossing the gravelly lakebed on the shoreline, when in reality the size of the gravel makes it hard to leave any mark. However, no other aspect of the investigation has spurred so many conspiracy theories as the oaths the witnesses had to take. The Bavarian government asked those involved in the events of the night of 13 June to swear never to reveal what they witnessed, not even to a priest.

So how do Germans explain the deaths? They pose four credible theories. The first – the official government version – is suicide-homicide. According to this theory, Ludwig, despondent over his deposition, took advantage of his and Doctor Gudden's isolation on the castle grounds. Ludwig broke away from Doctor Gudden and dashed into the water to drown himself. Gudden chased and caught Ludwig, trying to stop him. A struggle ensued in which the stronger and larger king overpowered the smaller and older doctor and killed him. Ludwig then waded out into deeper water and let himself drown. Both bodies drifted back to shore. There are several problems with this theory. First, Ludwig's pocket watch stopped 72 minutes before Doctor Gudden's did. That suggests that the king died before the doctor. The significance of those times and the factors that might have influenced the watches' machinery belong to the most controversial aspects of the case. In an experiment conducted by a watchmaker with a replica of a period watch, the watch's machinery didn't even hold out for a

Image Source • Main image: Public Domain; Private Collection of Wolfgang Sauber. Left: Public Domain; GHP2@yahoogroups.com.



The recovering of Ludwig II's body from the lake, dated 1886

Image Source • Getty Images

minute once it was placed in water. But might the watches' individual craftsmanship have played a role? Furthermore, Ludwig was wearing only a vest when he died and Doctor Gudden both a vest and overcoat. It would have taken longer for the water to saturate his clothing and reach his pocket watch.

Doctor Gudden's death mask shows a markedly swollen left eye and scratches on the nose. Assuming Doctor Gudden sustained those injuries in a fight with Ludwig, the lump over his eye suggests he survived for some time following the blow. After all, bruises occurring at the time of death cause little to no swelling, but bruises occurring before death do.

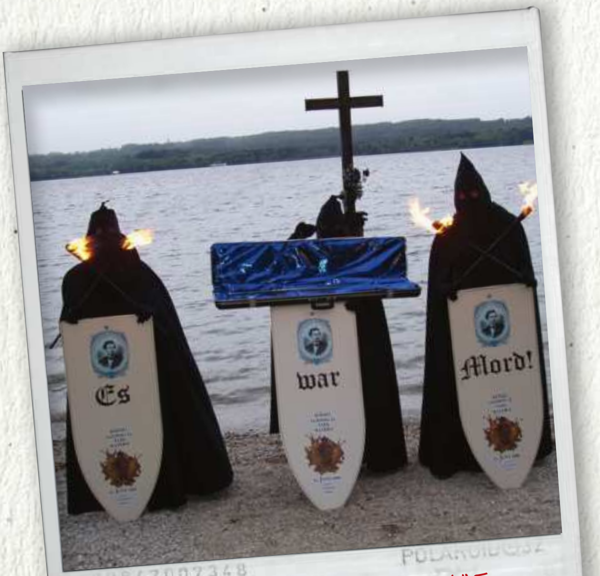
Another problem with the official theory is the autopsy results: the doctors found no water in Ludwig's lungs. That doesn't necessarily mean that Ludwig didn't drown; in a rare form of drowning called dry drowning, a laryngeal spasm suffocates the victim without any aspiration of water. The victim then floats – just like Ludwig and Doctor Gudden did – instead of sinking. According to an investigator with the Missouri Water Patrol, however, dry drowning accounts for only 10-15 per cent of all drowning cases. It's uncommon enough that he recommends that police rule other causes of death, such as accident or homicide, for a freshly dead floating body. The urgency of his admonition becomes deafening for two floating bodies.

Indeed, accident and homicide are the other theories. An accidental death could have taken several forms. It's possible one or both men died from a heart attack upon entering the cold water. If they fought each other, one or both could have fainted or suffered circulatory failure. Doctor Gudden might have carried chloroform as means to subdue his patient if necessary. Chloroform poisoning could have caused either man to collapse and dry-drown. One witness claimed Ludwig's body smelled like ether.

And what of the witness oaths? There's no need to cover up a suicide or accident. The most hotly debated theories involve just the kind of thing you'd expect to see covered up: murder and manslaughter. According to the murder theory, Ludwig fell victim to political intrigue and Doctor Gudden was silenced as a witness.

Two men involved in the recovery of the bodies later claimed, in a diary and deathbed confession respectively, that someone shot the king. One was the fisherman who helped find the bodies. He claimed that he'd tried to help the king escape – Ludwig had fled to his waiting boat and was shot in the back as he climbed in. The fisherman pushed the body back intro the water and paddled away to save his own life, only to help in the search later. The other man was one of the doctors who had examined the body on the night of 13 June. He'd told his daughter on his deathbed that he couldn't leave the Earth without exposing the lie he'd lived

"CHLOROFORM POISONING COULD HAVE CAUSED EITHER MAN TO COLLAPSE AND DRY-DROWN"



Guglmänner hold signs that read "Es war Mord" – it was murder

Who are the Guglmänner?

An ancient society lives on to preserve the memory of Ludwig II

Imagine a Bavarian version of the Richard III Society, focused on King Ludwig II, but much older and incognito. Then you'll have a good idea of the Guglmänner. The Guglmänner ('hooded men' in their native German) are members of a secret medieval knighthood. Originally tasked with carrying plague victims to their graves, they probably maintained secrecy to avoid societal ostracism for having handled the dead. They base their organisation on a 1037 statute, the Constitutio de Feudis, which regulated the German knighthood.

When the Guglmänner appear in public, they wear their traditional clothing: black robes and hoods with eye slits. This outfit was supposed to have protected them from disease during the plague and dates back to the funeral of Holy Roman Emperor Friedrich Barbarossa in 1190.

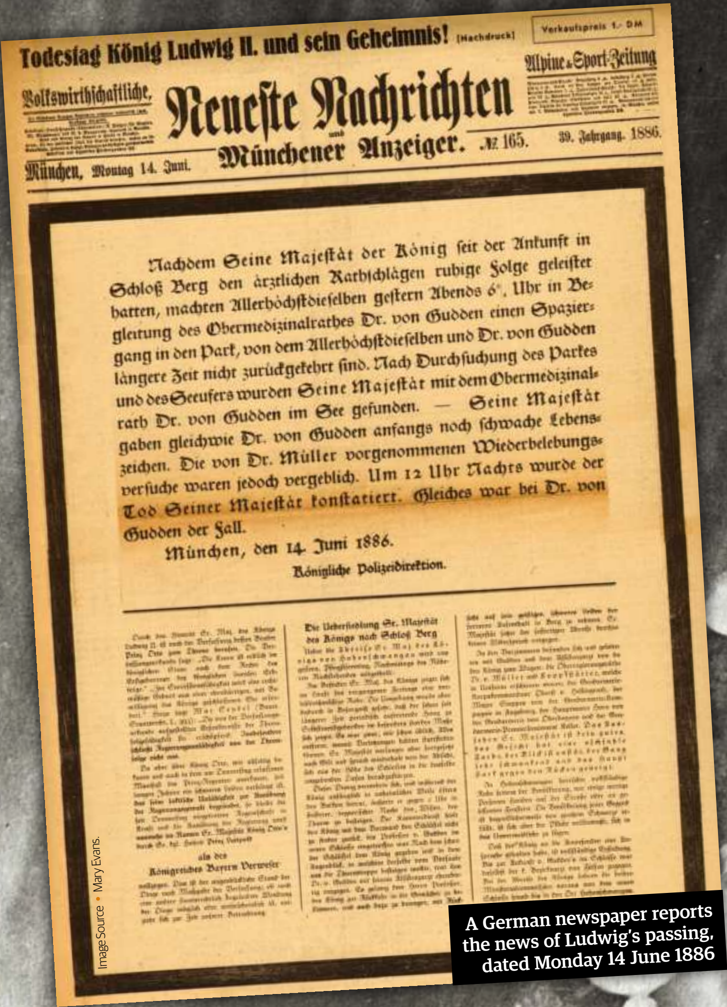
Throughout the centuries, the Guglmänner traditionally participated in royal Bavarian funerals, decked out in their hoods and robes. Their customary place is behind the archbishop and just in front of the funeral carriage, where they march silently with two burning white candles crossed in front of their chests. Even their motto is about death – 'Media in vita in morte sumus' – 'In the midst of life, we are surrounded by death'.

With the demise of the Bavarian monarchy at the end of World War I, the group has emerged with a new focus: the Guglmänner believe that King Ludwig II was murdered. They protest against instances of lèse-majesté (injured majesty) and collect evidence to prove their murder theory. The Guglmänner seek the answers to many of the issues posed in this article and have been pushing for the exhumation of Ludwig's body to clarify the cause of death.

The Guglmänner's latest public appearance was at the 130th anniversary of Ludwig's death in June 2016. Attired in their black hoods, two members boated out to the cross in Lake Starnberg that marks the spot where the king died. There they placed a huge, upright picture of Ludwig's face with the upper half poking above the surface. On the king's forehead, a message read: "It was murder."

Ludwig II lying in wake in his sarcophagus, in 1886

Image Source • Getty Images.



Todestag König Ludwig II. und sein Geheimnis! [Nachdruck]

Verkaufspreis 1.- DM

Volkswirthſchaftliche,

Neueſte Nachrichten

und

Münchener Anzeiger.

Alpine & Sport-Zeitung

№ 165. 39. Jahrgang. 1886.

München, Montag 14. Juni.

Nachdem Seine Majeſtät der König ſeit der Ankunft in
Schloß Berg den ärztlichen Rathſchlägen ruhige Folge geleiſtet
hatten, machten Allerhöchſtdieſelben geſtern Abends 6¾ Uhr in Be-
gleitung des Obermedizinalrathes Dr. von Gudden einen Spazier-
gang in den Park, von dem Allerhöchſtdieſelben und Dr. von Gudden
längere Zeit nicht zurückgekehrt ſind. Nach Durchſuchung des Parkes
und des Seeufers wurden Seine Majeſtät mit dem Obermedizinal-
rath Dr. von Gudden im See gefunden. — Seine Majeſtät
gaben gleichwie Dr. von Gudden anfangs noch ſchwache Lebens-
zeichen. Die von Dr. Müller vorgenommenen Wiederbelebungs-
verſuche waren jedoch vergeblich. Um 12 Uhr Nachts wurde der
Tod Seiner Majeſtät konſtatiert. Gleiches war bei Dr. von
Gudden der Fall.

München, den 14. Juni 1886.

Königliche Polizeidirektion.

Die Ueberſiedlung Sr. Majeſtät des Königs nach Schloß Berg

A German newspaper reports the news of Ludwig's passing, dated Monday 14 June 1886

Image Source • Mary Evans.

with for many years: Ludwig had been shot. The drowning story was a cover-up.

A relative of Ludwig claimed to possess the coat he wore that night - she even showed bullet holes in the back to several of her guests. Another witness sketched Ludwig's dead face at Castle Berg and depicted a dark fluid dribbling from the king's mouth. It was blood, posits a Bavarian art historian, who made a copy of the picture when he appraised it. He says that points to murder.

The problem with this evidence is that it's so ephemeral. The coat disappeared in a house fire and the diary disappeared at the fisherman's death (although he allegedly gave the critical page to a local historian before he died, and the historian published it). A medical examiner says that the dark fluid wasn't necessarily blood. Drowning victims - even dry drowning victims - develop foam around their mouths and noses consisting of air and mucus. This plume, as it dissipates, can take on a darker colour, which could have been the substance in the sketch. On the other hand, the physician who attempted artificial resuscitation on the king on the bank of Lake Starnberg probably removed any mucus airway obstruction first. Because the sketch was made after the

“THE PHYSICIANS’ FAILURE TO FIND A CAUSE OF DEATH SUGGESTS THEY AT LEAST THEY WERE HONEST”

resuscitation efforts, the exact nature of the fluid remains unclear.

A variant of the murder theory is manslaughter. Armed gendarmes were patrolling the castle grounds that evening to prevent the king’s escape and keep others out. If Ludwig and Doctor Gudden fought each other in the water, one of the gendarmes might have not recognised them in the wind and rain and shot them as intruders. Embarrassed about its failure to properly handle the king’s confinement, the Bavarian government might have ordered a cover-up.

According to this theory, the doctors performing the autopsy falsified the results: they didn’t report the bullet wounds. But why not then falsify the autopsy report all the way around? They could have gone a step further and claimed to have found water in Ludwig’s lungs, supporting the official suicide-drowning theory. The physicians’ failure to find a cause of death suggests that at least they were honest.

Perhaps the most fascinating aspect of King Ludwig’s death is how elegantly the evidence skips and hops atop the divide separating the watershed theories of suicide, accident and homicide. Even now, historians still can’t figure out what happened that night. Ludwig II once wrote that he hoped his life would present an eternal enigma to the world - the circumstances of his death more than fulfilled his wishes.

JACK THE RIPPER

History's most infamous serial killer stalks the streets and the police hunt for him grows more desperate with every gruesome murder

WRITTEN BY **ROBIN BROWN**

August 31st 1888. The East End of London is not unaccustomed to violence or murders, but on Buck's Row lies a body that has been mutilated beyond even Whitechapel's reputation for depravity. Her throat cut and abdomen gashed, Mary Ann Nichols, known as Polly, has become the first unwitting victim of the modern era's most notorious serial killer.

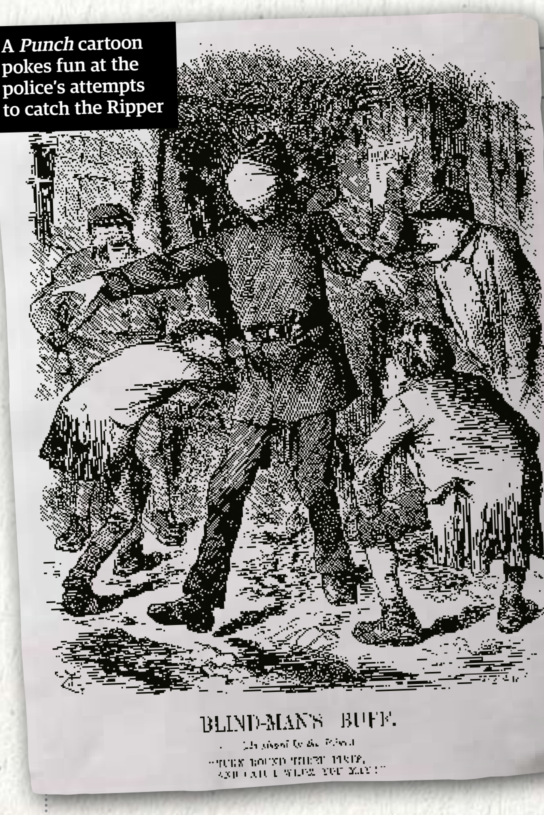
Polly Nichols is widely considered the Ripper's first victim and shares a similar profile to most of his later victims. Estranged from her family, Nichols has worked the dark streets of Whitechapel for most of the decade. Known for her love of drink and with a turbulent personal history behind her, Polly has been in and out of London's workhouses, where the destitute are offered food and shelter in return for unskilled work, for over five years, ever since her husband ceased maintenance payments on the grounds that his wife has been working as a prostitute.

Despite finding a job working as a domestic servant during the spring of 1888, Nichols resumes her itinerant lifestyle and lives in a series of workhouses and lodging houses over the summer. On 31 August 1888, Polly has made her daily lodgings money three times over but has drunk away most of her profits, so she must go out to work again if she is to have a roof over her head for the night. She is last seen in The Frying Pan public house before heading out into the night again - minutes later her body is discovered on Buck's Row. Her throat has been cut and her abdomen slashed open. It will later be discovered in the mortuary that Polly Nichols' body has been eviscerated too.

> "POLLY HAS MADE HER DAILY LODGINGS MONEY THREE TIMES OVER BUT HAS DRUNK AWAY MOST OF THE PROFITS"

Even before the Ripper's reign of terror, the East End was a hotbed of violence, particularly toward women. While the police will later exclude them from the so-called canonical murders - the five murders considered to have been perpetrated by the Ripper - two women working as prostitutes have already been killed in 1888. Emma Smith and Martha Tabram were both killed and mutilated that year, but with such events relatively commonplace there is little concern among the capital's police force. This will soon change.

Image Source • Jay Wong.


BLIND-MAN'S BUFF.

A *Punch* cartoon pokes fun at the police's attempts to catch the Ripper

Image Source • Public Dcomain;. *Punch*, 22nd September 1888, page 134

A burly, mustachioed man, Frederick Abberline knows the streets of Whitechapel well, having worked in the Metropolitan Police force's H Division as a local inspector for almost ten years before receiving a promotion to inspector first-class at Scotland Yard in February 1888. With the resources of H Division seen as stretched and the seriousness of the Nichols murder recognised at the highest levels, Abberline is seconded back to Whitechapel to oversee the investigation into the murders due to his excellent knowledge of the area's geography, criminals and way of life. Nobody doubts Abberline's suitability for the job - he is considered fair and meticulous. With increasing numbers of detectives and divisions involved in investigating the murders, Abberline becomes the most-recognised policeman connected to the Ripper murders, conducting interviews, viewing identity parades and hearing testimonies first-hand. Many high-ranking officials from Scotland Yard would compile their own theories based on Abberline's reports.

However, the police have a difficult task on their hands. The victims' profession is an unwitting assistance to the Ripper. They lead him to the shadows, where they are unlikely to be disturbed: the perfect way to commit murder in Whitechapel. With an estimated 90,000 people crammed into little more than 2.6 square kilometres (1.5 square miles) - and an estimated 1,200 women working as prostitutes at any one time - policing Whitechapel is near-impossible. This is made even harder by Victorian methods of policing, which dictate that beat constables must check in on their rounds on time or face their pay being docked: a quixotic rule that leads to some constables turning a blind eye to crime in order to check in on time. By 19 September, Abberline is forced to conclude that, "not the slightest clue can at present be obtained", as to Nichols' killer.

Just a week after the murder of Nichols, the Ripper strikes again. On 8 September 1888, the body of Annie Chapman is discovered in the yard of 29 Hanbury Street. Her throat has been cut, but the mutilations are even more horrific. Chapman's body has been disembowelled and the intestines strung over her shoulder; part of Chapman's womb has been removed. Alongside Chapman's meagre possessions there is a leather apron found nearby.

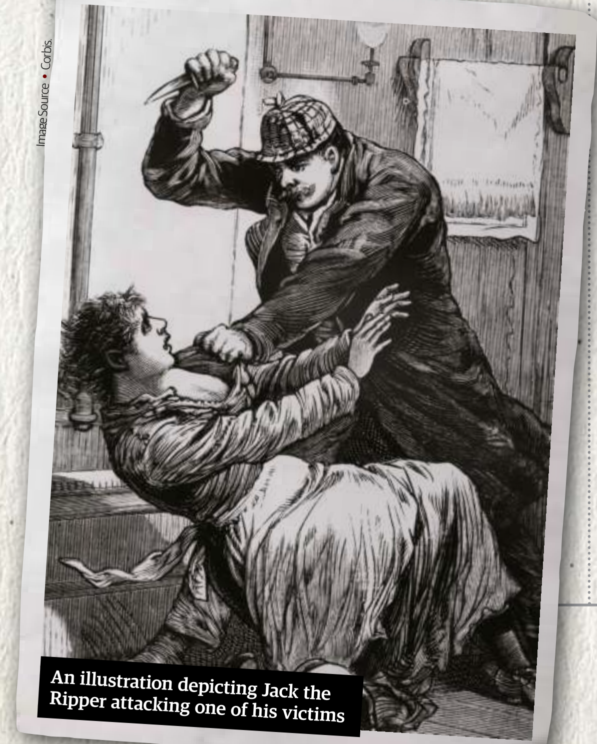
Newspapers quickly latch on to the two murders and the leather apron is seen as vital evidence by the press. A man colloquially known as 'Leather Apron,' John Pizer, is reported to have been seen with Chapman shortly before her murder. Pizer had previously attacked a man with a knife and sexually assaulted a prostitute the previous summer, which doesn't help his cause. Just as importantly - given the rampant suspicion of Jews in the East End - Pizer is Jewish, spurring the press on to hysterical anti-Semitism. The East London Observer describes Pizer as having a face "not altogether pleasant to look upon, by reason of the grizzly black strips of hair" and possessing "thin lips" with "a cruel sardonic kind of look". However, Pizer is quickly discounted as a suspect when it is discovered he has an alibi for both murders.

Over the course of the investigation, more than 2,000 people are interviewed in connection to the murders, with a focus on slaughtermen, butchers and those in the medical profession, due to the initial belief that the murderer must have some anatomical knowledge. With thousands of accusations every week, Abberline and H Division is stretched to breaking point. Public dissatisfaction with the investigation leads to the formation of a vigilante group, The Whitechapel Vigilance Committee. Frustrated with the police's performance, the committee starts its own patrols, paying men a small wage to patrol the streets from midnight to the early hours of the morning.

Without some of the most basic forensic science that crime-fighters will take for granted in the 20th century Abberline struggles to make any headway. The policeman would walk the streets until the early hours searching for clues and would often give unfortunates fourpence for a night's doss to get them off the streets. At one point H Division has 1,600 reports to wade through and the strain on Abberline nearly breaks him.

The police are deluged with letters - most of them overwhelmingly certain fakes - and information they do not trust. However, physical profiles built from claimed witness reports, in contradiction to the romanticised image of the Ripper, suggest a white man in his twenties or thirties with a moustache and dressed shabbily or as a tradesman or sailor. A criminal profile by police surgeon Dr Thomas Bond suggests a quiet, eccentric man without anatomical knowledge and driven by sexual mania to kill: "The murderer must have been a man of physical strength and of great coolness and daring. There is no evidence that he had an accomplice. He must in my opinion be a man subject to periodical attacks of homicidal and erotic mania. The character of the mutilations indicate that the man may be in a condition sexually, that may be called satyriasis."

Victorians make much of sexual dysfunction and many who end up in lunatic asylums are committed there for activities that would not raise an eyebrow today. Nevertheless, while Ripper victims show no signs of sexual assault, most believe that there is a sexual element to the murders, given the way the corpses are posed and the genital mutilations that most display. Abberline is suspicious of Jacob Isenschmid and at one point declares him to be the most likely suspect, not a great leap, as he is given to bouts of insanity and is known as the 'Mad Pork Butcher.' He is arrested on 12 September and subsequently committed to the Bow, an infirmary asylum. Several weeks pass following Chapman's death and the hysteria



An illustration depicting Jack the Ripper attacking one of his victims

Image Source • Corbis

"EVEN BEFORE THE RIPPER'S REIGN OF TERROR, THE EAST END WAS A HOTBED OF VIOLENCE, PARTICULARLY TOWARD WOMEN"

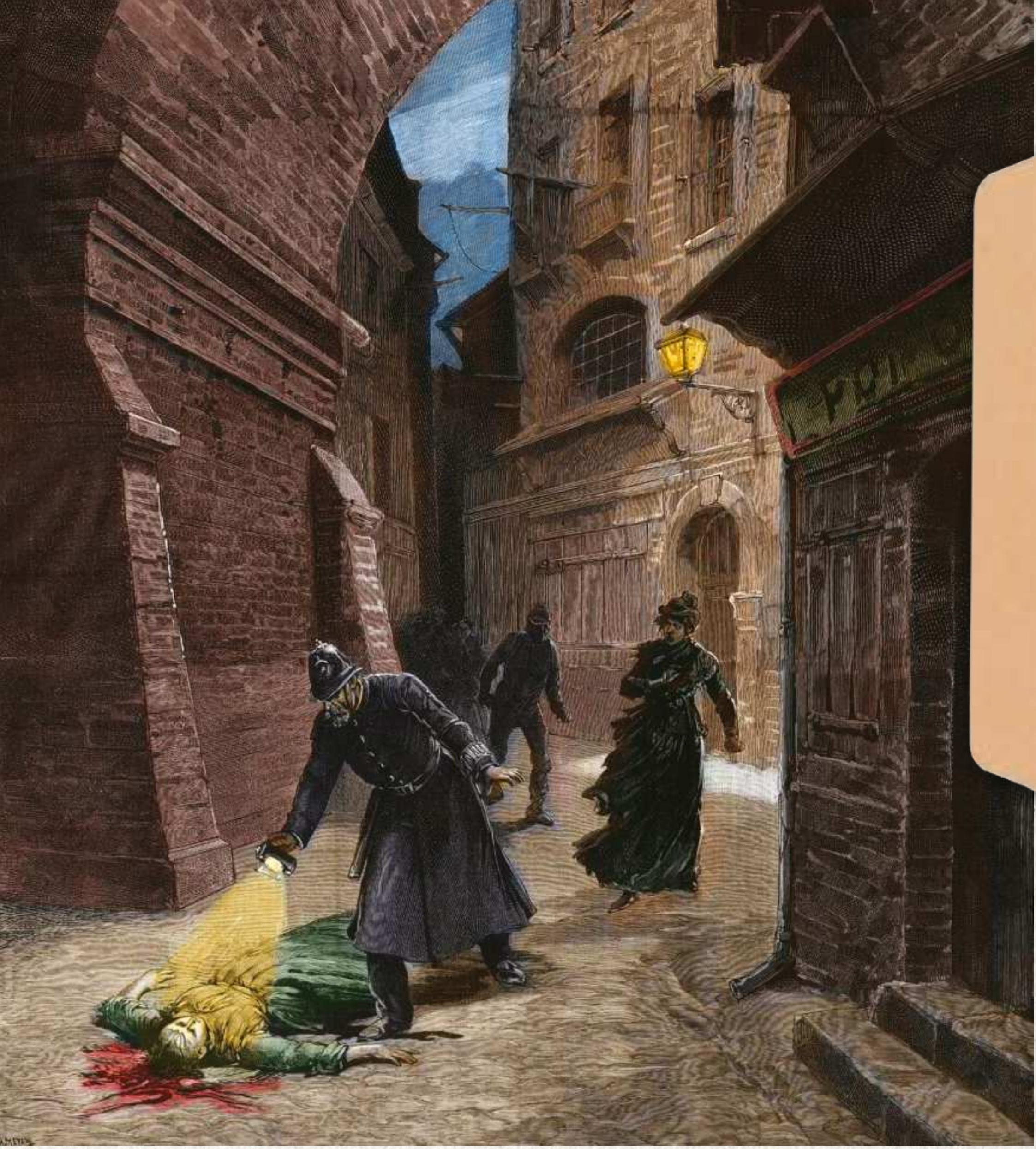


Image Source • Above: Corbis

following her death begins to die down. The East End allows itself to hope that the worst has passed before it is struck with a horrific double killing in the early hours of 30 September.

Like Nichols and Chapman, Liz Stride has worked as a prostitute but had previously run a coffee house with her husband, who had died in 1884. At that time, Stride is working as a charlady and making some money sewing, while occasionally receiving money from her on-off partner, Michael Kidney. Days before her murder, Dr Thomas Barnardo claims to have seen Stride in a lodging house in Whitechapel among a group of women who opine that they might soon be murdered by the Ripper.

Stride is found with her throat cut in Berner Street on 30 September. Of the canonical five, Stride's murder is considered the most dubious due to the lack of trademark mutilations, leading to speculation that the murderer is interrupted shortly after killing Stride, or even that her murder is committed by someone other than the Ripper, perhaps a would-be copycat. This theory is given further credence when the body of Cathy Eddowes is discovered in Mitre Square 45 minutes later.

The killing of Stride is significant in that it features one of the most convincing eyewitness descriptions, given by a man named Israel Schwartz. His account suggests that he saw the Ripper attack Stride before becoming aware that he was observed, shouting "Lipski!" before Schwartz escapes. The police suggest the colloquial term, used to refer to Jews, is essayed to an accomplice nearby, who makes it towards Schwartz himself. This theory leads the police to initially conclude that their suspects are Jewish.

However, Abberline is of the opinion that the term is aimed in a derogatory manner at Schwartz, given his Yiddish features. Such is Abberline's standing in the investigation that this take is adopted without question, discounting the theory that the Ripper was Jewish and working with Jewish accomplices.

Eddowes is not known to work routinely as a prostitute and is in a relationship at the time of her death. She is given to heavy drinking, however, and on the night of her death is taken to Bishopsgate Police Station and locked in a cell until sober. At around 1am, she is released and turns to walk in the opposite direction to her lodging house – in less than an hour she will be dead. Unlike Stride, Eddowes' body has been horrifically mutilated. Having cut her throat, the killer also disembowels his victim, removing part of her kidneys and uterus. The corpse's eyes have also been removed, as well as the tip of her nose and an earlobe.

Suspects

FRANCIS TUMBLETY

Profession: Herbalist, con man

Was he the Ripper?:

An American quack doctor, Tumblety supposedly owned sets of reproductive organs in jars and was thought to be flamboyant – and thus homosexual. While such scant evidence was sufficient for Ripper accusations in the 19th century, Tumblety's extreme misogyny and criminal behaviour led to one investigating officer naming him as his favoured suspect, while a forensic analyst deemed his handwriting bore a similarity to the Ripper letters.

SIR WILLIAM GULL

Profession: Doctor, Queen's physician

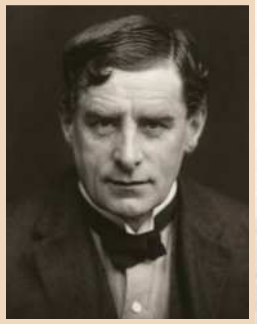
Was he the Ripper?:

Alan Moore's seminal graphic novel *From Hell* suggests that Gull was the Ripper, wiping out a group of women who learned of an illegitimate Catholic heir to the throne fathered by Prince Albert Victor. The Queen's surgeon, most famously played by Ian Holm in a film adaptation, is portrayed either as a diligent professional, thoroughly insane or acting as an agent of higher powers, both corporeal and divine. None are taken seriously.

WALTER SICKERT

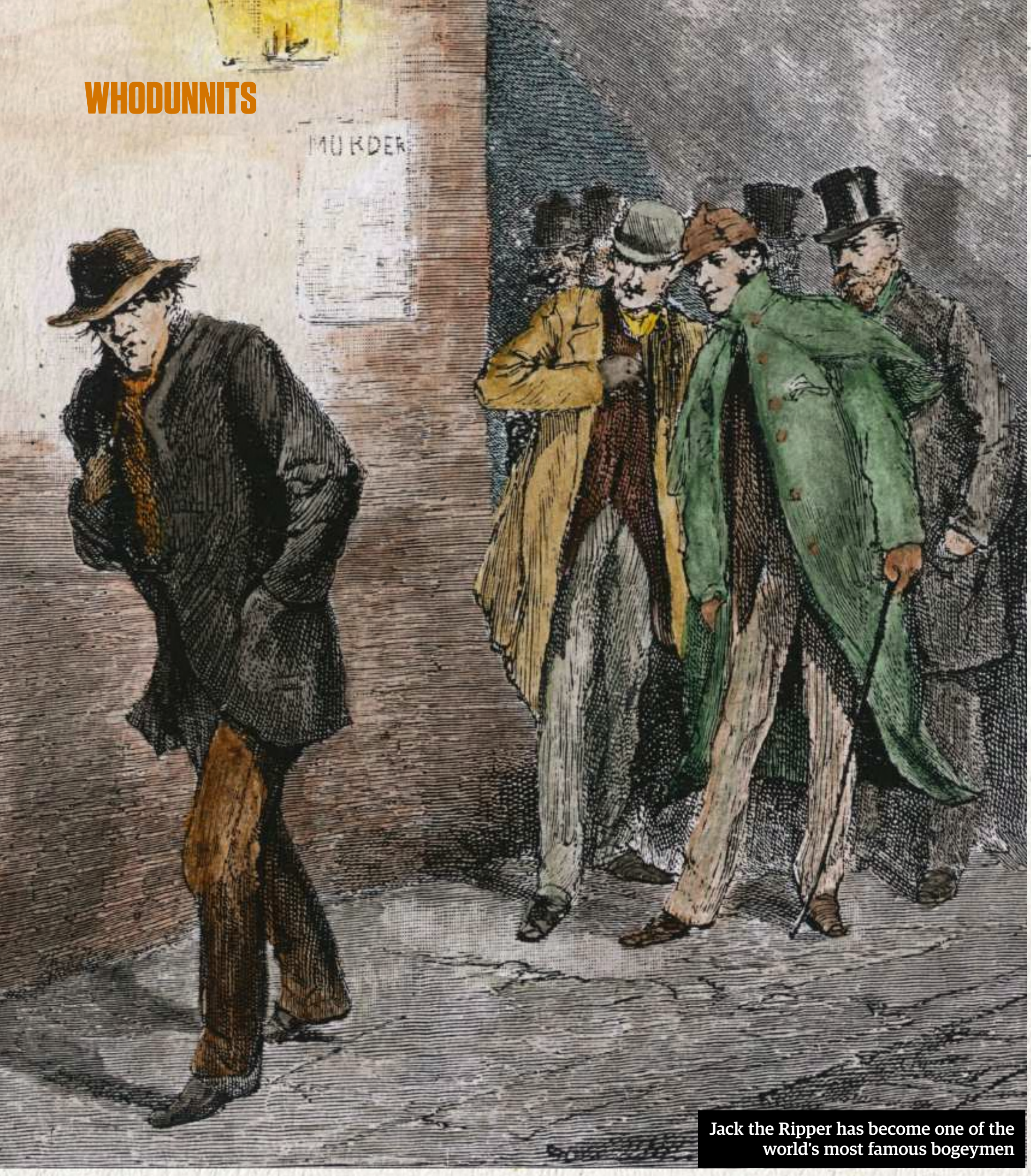
Profession: Artist

Was he the Ripper?:

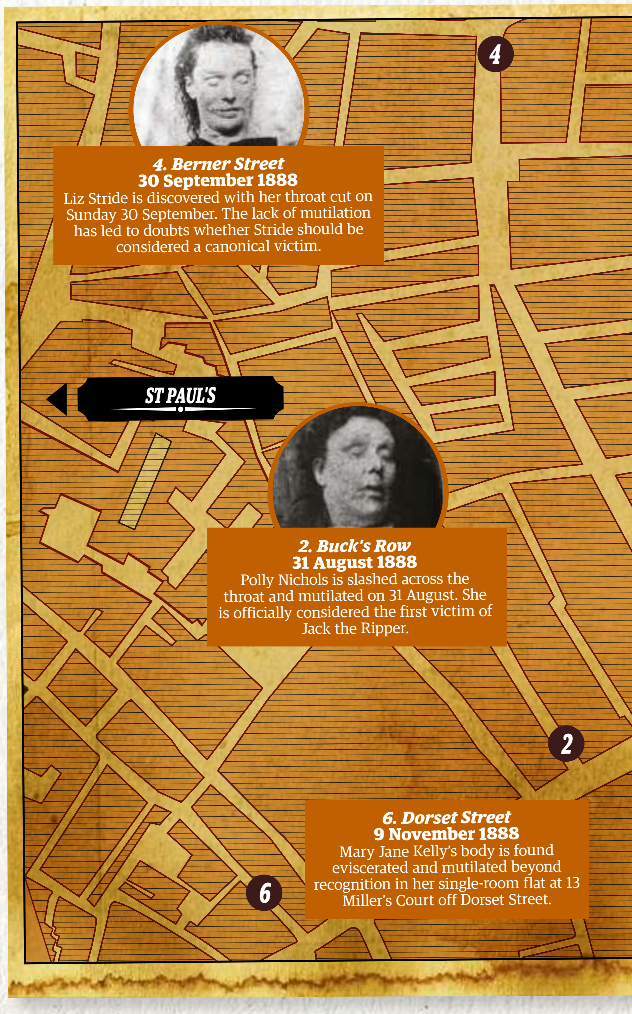


Famed for his avant-garde paintings, Sickert was open about his interest in Ripperology. After his death, Sickert was accused of being an accomplice – or even committing the murders himself – in various books, including one by crime novelist Patricia Cornwell, who claims to have matched Sickert's DNA to one of the Ripper letters. The theory is widely dismissed among historians.

Image Sources • 1. Public Domain; *A Sketch of an Eventful Career* by Francis Tumblety • 2. Public Domain. • 3. Public Domain; National Portrait Gallery, London.



Jack the Ripper has become one of the world's most famous bogeymen



4. Berner Street
30 September 1888
Liz Stride is discovered with her throat cut on Sunday 30 September. The lack of mutilation has led to doubts whether Stride should be considered a canonical victim.

2. Buck's Row
31 August 1888
Polly Nichols is slashed across the throat and mutilated on 31 August. She is officially considered the first victim of Jack the Ripper.

6. Dorset Street
9 November 1888
Mary Jane Kelly's body is found eviscerated and mutilated beyond recognition in her single-room flat at 13 Miller's Court off Dorset Street.

Image Source • Above: Alamy

The removal of the kidney is significant. Scotland Yard and H Division are deluged with thousands of letters a week from the public, pointing the finger at possible suspects. What's more, the press claim that a number of letters, purporting to be from the Ripper, have been sent to their offices. Of these letters, only one is believed to be potentially genuine. Sent to George Lusk, head of the Whitechapel Vigilance Committee, two weeks later, it contains a piece of kidney that is purportedly from Eddowes' body. The letter is thought to be significant as the kidney is reported to show signs of Bright's Disease, which Eddowes is known to have suffered from. The writer of the letter – marked as being written 'From Hell' – claims to have eaten the missing kidney half and threatens to send Lusk the bloody knife used in the murder.

Of the many letters received by police, only two others are given any credence. The first is sent to the Central News Agency on 25 September and begins with 'Dear Boss' and is signed 'Jack The Ripper,' the first use of this moniker. It goes on to threaten to send the police the ears of the next victim, but while Eddowes' ear has been cut, the pathologist suggests this was coincidental to the Ripper slashing her throat.

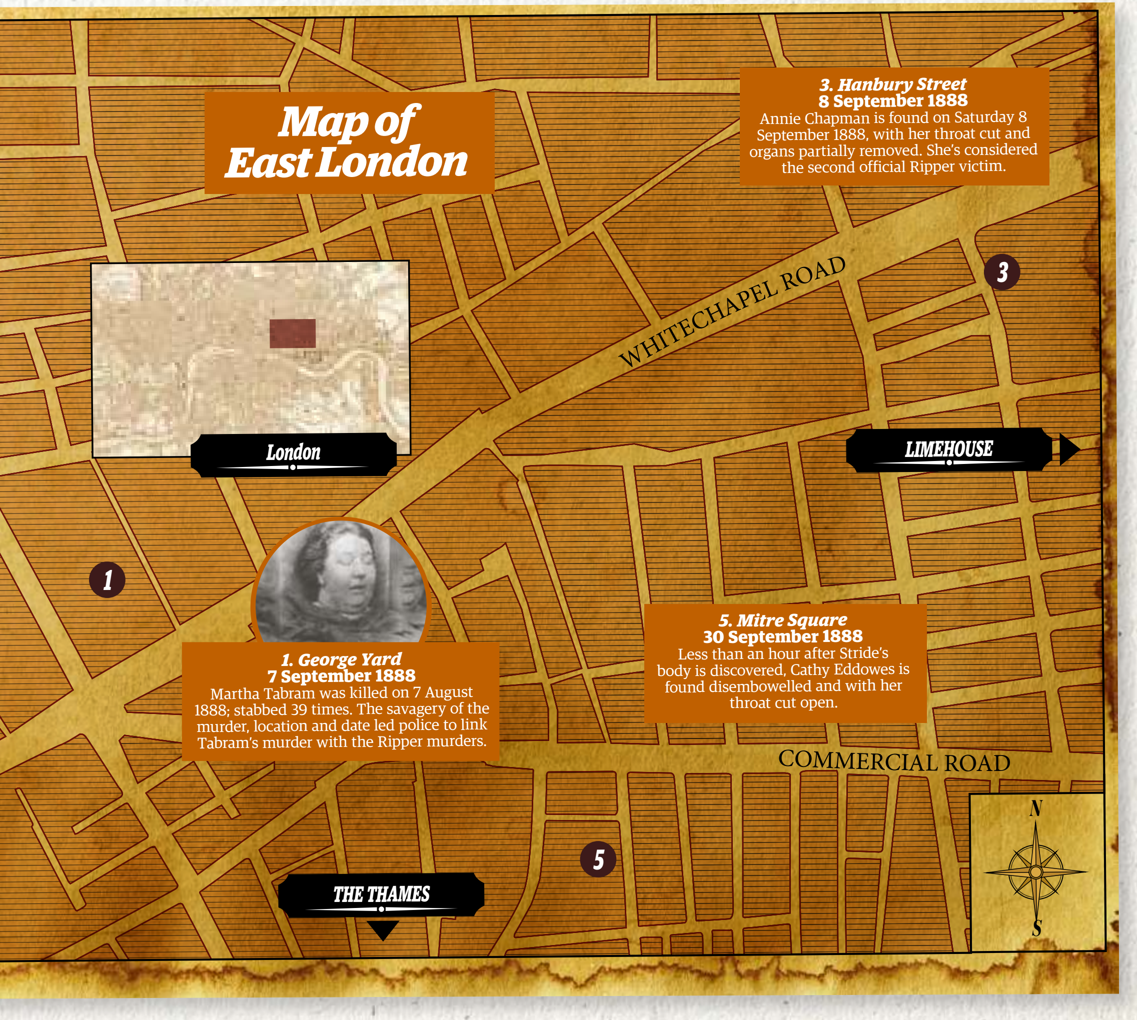
The next, received on 1 October, is signed 'Saucy Jacky' and references the 'double event' of the murders of Stride and Eddowes. Although initially given credence due to the apparent foretelling of the murders, the postcard is actually postmarked after the event. Both are widely thought to be hoaxes written after the event, with police even suspecting unscrupulous journalists keen to keep the story alive. The police put constables into plain clothes to blend in with Whitechapel's locals and copies of the letters purporting to be from the Ripper are posted throughout the area in the vain hope that someone will recognise the handwriting in them.

> "CHAPMAN'S ARRIVAL IN ENGLAND COINCIDED WITH THE BEGINNING OF THE MURDERS AND THEY CEASED WHEN HE LEFT"

However, Abberline has another problem – the climate of fear and hysteria breeds xenophobia, which finds an outlet in persecution of the local Jewish population. Near to where Eddowes was found is a message scrawled on a wall, implying Jews are responsible for the murders. Five weeks pass without another murder, with an increased police presence and public vigilance at a high.

Mary Jane Kelly, unlike the other murder victims who were all in their forties, is 25 years old and rents a private room. She works as a prostitute and has a fondness for drink, having ended up in London by way of Ireland and Wales, according to various reports. On the morning of 9 November, Kelly's landlord dispatches a lackey to collect the six weeks of rent she owes. He finds only Kelly's body, horribly eviscerated beyond recognition in her flat. Over the fire is a kettle, the solder on which has melted. Abberline surmises that the killer burned Kelly's clothes – which are missing – to provide light in which to carry out his macabre work. The mutilation is so extensive that Dr Bond believes the murderer would have been at work for at least two hours. Kelly's organs have been removed from her chest and abdominal cavities, her face destroyed and heart missing.

The brutality of the killing reignites fear across Whitechapel, so Scotland Yard announces a pardon for anyone with information leading to the arrest of the Ripper. However, at the height of his notoriety, the Ripper disappears. Just as quickly as his reign of terror on the East End began, it ends. While



Map of East London

3. Hanbury Street
8 September 1888
Annie Chapman is found on Saturday 8 September 1888, with her throat cut and organs partially removed. She's considered the second official Ripper victim.

1. George Yard
7 September 1888
Martha Tabram was killed on 7 August 1888; stabbed 39 times. The savagery of the murder, location and date led police to link Tabram's murder with the Ripper murders.

5. Mitre Square
30 September 1888
Less than an hour after Stride's body is discovered, Cathy Eddowes is found disembowelled and with her throat cut open.

Jack's victims?

MARTHA TABRAM

Separated from her husband and with a reputation for excessive drinking, Martha Tabram was destitute by August 1888 and making a living from prostitution. Her body was discovered with 39 stab wounds but she had not been further mutilated. Tabram is not generally considered an official 'canonical' victim of the Ripper.

POLLY NICHOLS

Estranged from her husband and children, Polly Nichols had been in and out of workhouses for over five years by the time of her death. She had earned enough money for a bed on the night of her murder but spent the money on alcohol, forcing her back onto the streets.

ANNIE CHAPMAN

Known as Dark Annie due to either her hair or her black moods, 47-year-old Chapman had fallen on hard times following the death of her husband, birth of a handicapped child and the death of another. Although she had previously sold flowers and relied on an allowance from her husband, his death forced her into prostitution to support herself financially.

LIZ STRIDE

Known as Long Liz, possibly due to her surname or appearance, Stride was a Swedish immigrant given to flights of fancy and worked as a prostitute on the streets of Whitechapel. Some Ripperologists question whether Stride was a Ripper victim as her body was not mutilated; others suggest that the killer was interrupted in the act.

CATHY EDDOWES

The second victim in the so-called 'double event' on 30 September, the 46-year-old Eddowes was known as an intelligent, striking and jolly woman who had moved to London from Wolverhampton. There's some doubt as to whether Eddowes worked as a prostitute, though she was seen talking to a stranger minutes before her death.

MARY JANE KELLY

The last of the canonical murders, Kelly did not quite fit the established profile. While working as a prostitute, Kelly had her own lodgings and, at 25, was much younger than the other victims. Her murder was by far the most brutal of all the Ripper's crimes, resulting in her body being removed not by stretcher, but in eight buckets.

> "THE WRITER OF THE LETTER – MARKED AS BEING WRITTEN 'FROM HELL' – CLAIMS TO HAVE EATEN THE MISSING KIDNEY HALF"

there are superficially similar murders in 1889 and 1891, it is not believed the same man committed them. The investigation slowly winds down but the Ripper lives on in the public's consciousness. The Whitechapel murders have also galvanised politicians into acting to improve the state of the East End's slums, many of which are cleared over the following decades. Abberline moves back to Scotland Yard, receives a promotion to the rank of chief inspector and retires in 1892.

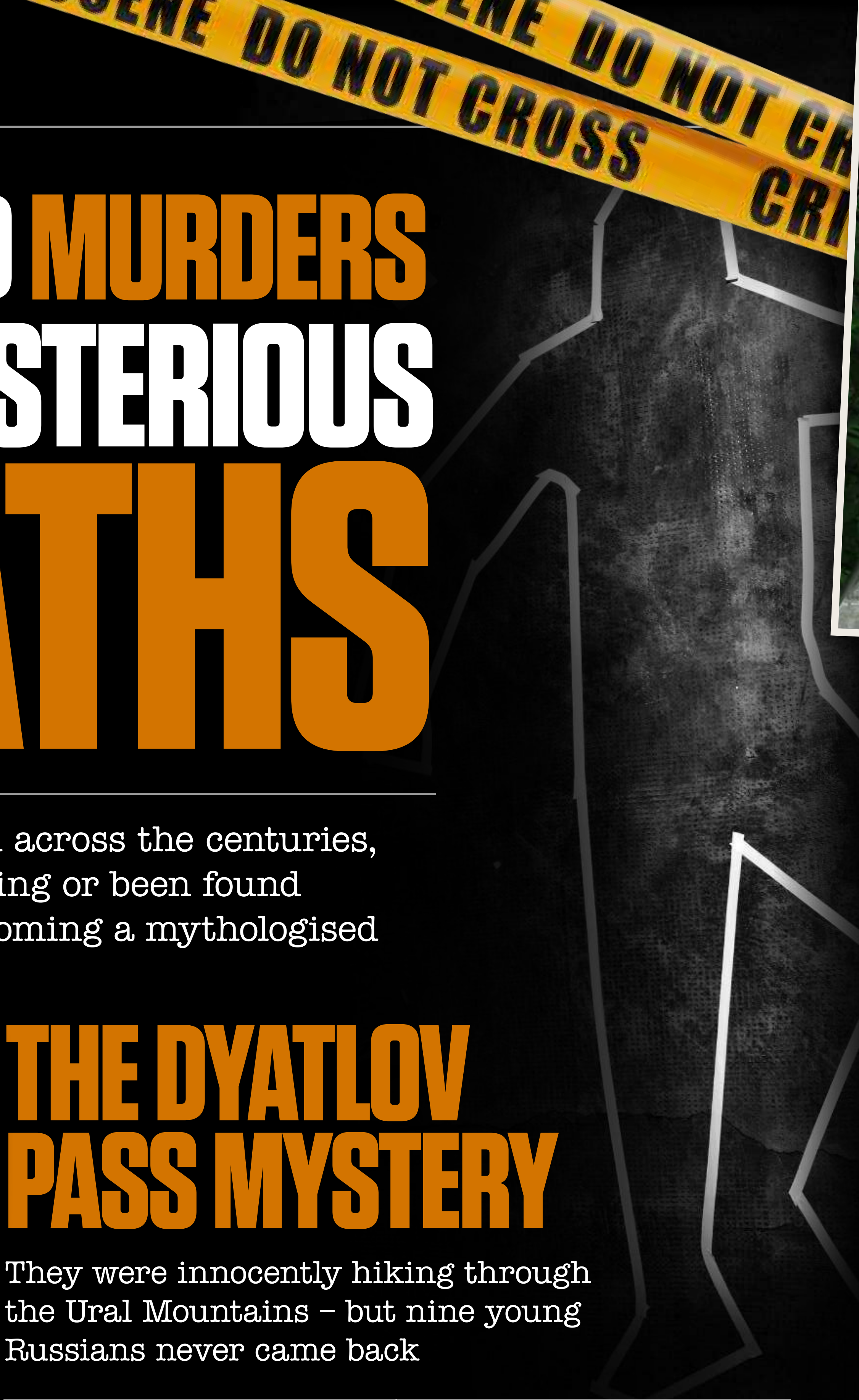
While opinion of the identity of the Ripper may be divided, most experts believe that only incarceration, removal from Whitechapel or death would have prevented the Ripper from killing again; having been forced to kill from some sort of compulsion he would have been unable to resist had he remained in the area and at liberty. In 1894 Metropolitan Police Chief Constable Melville Macnaghten publishes a report that names three suspects - John Druitt, Aaron Kosminski and Michael Ostrog - as three likely candidates. However, factual inaccuracies blight the report, while Ostrog was likely imprisoned in France at the time of the murders. Macnaghten's report is indicative of the lack of sound factual bases behind many Ripper accusations.

As for the man in charge of the investigation at the time, Abberline's favoured candidate was Seweryn Antonowicz Kłosowski, also known as George Chapman, a Polish immigrant hanged in 1903 for murdering three of his mistresses. Chapman worked as butcher, was known to be paranoid and to carry a knife, lived near the location of the first murder, matched physical profiles from witness statements and hated women. "I cannot help feeling that this is the man we struggled so hard to capture 15 years ago," said the Ripper hunter in an interview conducted in 1903 with the Pall Mall Gazette.

Abberline pointed out that the date of Chapman's arrival in England coincided with the beginning of the murders and that they ceased when he left for the USA, where Chapman was later tried and hanged for murdering his mistresses. Chapman had also studied medicine and surgery in Russia - leading Abberline to state that some of the Ripper murders constituted the work of an expert surgeon. The inspector also recalled a story in which a wealthy American gentleman had offered to pay a sub-curator at a pathology museum for organs - perhaps connecting this anecdote with evidence that the Ripper had removed several organs from his victims.

"It seems beyond belief that such inhuman wickedness could enter into the mind of any man," said Abberline of his theory. However, the retired policeman admitted that 15 years later that Scotland Yard was none the wiser as to the Ripper's true identity. The same can be said over 130 years later; Jack the Ripper is an enduring mystery whose identity seems destined never to be revealed, despite our best attempts.

Map Image Sources • Map: Getty Images • 1. Public Domain; Royal London Hospital Archives and Museum • 2. Public Domain; Records of the Metropolitan Police Office, National Archives, catalog number MEPO 3/140 • 4. Public Domain; Anonymous Private Collection.



UNSOLVED MURDERS AND MYSTERIOUS DEATHS

Around the world, and across the centuries, people have gone missing or been found dead, their deaths becoming a mythologised mystery

WRITTEN BY **NELL DARBY**

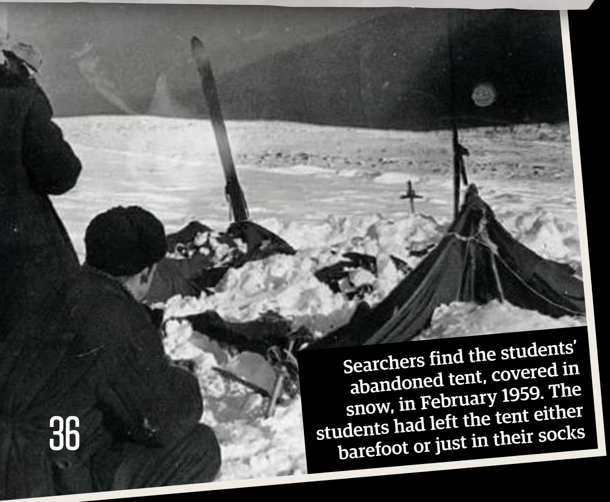
Mysterious deaths have always grabbed our attention. Even where there might be a logical reason behind a death, we want to believe that we are being lied to, or that there is another reason behind it. Such is human nature; unless we have evidence for something, we are naturally inclined to doubt what we are told, or even what we see. Over the centuries, there have been many mysterious deaths, and attendant conspiracy theories. Here are just a few of the cases that have made us stop and think, and that continue to capture public attention.

THE DYATLOV PASS MYSTERY

They were innocently hiking through the Ural Mountains – but nine young Russians never came back

They were nine experienced 'ski hikers' - using their skis to hike through snowy terrain - who set out one winter's day in 1959 to trek to the summit of a mountain in the Russian wilderness. They never came home, their disappearance becoming an enduring mystery.

The individuals were students and graduates from the Ural Polytechnic Institute, now known as the Ural State Technical University. The institute was based in Yekaterinburg in Russia, a city notorious for being where the Russian imperial family was massacred in 1918. Their base, therefore, already had a rather dark history, and Russia itself was seen to Western eyes as something of a dark and mysterious land. The Cold War had arguably started at the end of World War II, and there was a mutual suspicion between Russia and the United States. Now, coverage of



Searchers find the students' abandoned tent, covered in snow, in February 1959. The students had left the tent either barefoot or just in their socks

Image Source • Public Domain; Soviet investigators.

ДОРОШЕНКО Ю.А.
ДУБИНИНА Л.А.
ДЯТЛОВ И.А.
ЗОЛАТАРЕВ А.И.
КОЛМОГОРОВА З.А.
КОЛЕВАТОВ А.С.
КРИВОНИШЕНКО Г.А.
ТИБО-БРИНЬОЛЬ Н.В.

A tomb in Yekaterinburg's Mikhailov Cemetery includes photos of the young men and women who died so mysteriously 60 years ago

Image Source • Public Domain; Artur Andrzej.

Russian intrigue was exacerbated by this new mystery in the heart of the Ural Mountains.

The ski-hiking trip had been organised by 23-year-old radio engineering student Igor Dyatlov, a keen skier. The group he gathered together originally numbered ten: Igor, together with seven other men and two women, who all wanted to go ski-hiking to the mountain of Otorten. The youngest member of the party was Lyudmila Dubinina, who was just 20 years old; the oldest was Semyon Zolotaryov, who was 38. Most of the party, though, were in their early 20s.

Their plan was to travel by train to the town of Ivdel, from where they would travel by truck to an isolated village called Vizhay. They arrived in Vizhay on 26 January, where they bought loaves of bread to eat, and stayed the night, getting their last decent sleep before starting to trek towards Otorten. Two days in, they lost one of their members, Yuri Yudin; not to any mysterious circumstance, but from health problems. He suffered from rheumatism, and found the pain he was experiencing from his knees and other joints too much to continue. He turned back, but the other nine continued. It would turn out that Yuri had had a lucky escape, and would go on to live a long life - unlike the other students.

This was all in the future, however. After Yuri had left them, the others trekked on with their skis and poles, and eventually, on 31 January, they arrived on the edge of highlands that marked a change in conditions to uphill climbing. They went to store some food and equipment in the woods, so that they could retrieve them on their way back - thus also lightening their load during the climb - and on 1 February, they started to move through a pass. They were hoping to get through the pass before setting up camp on the opposite side, but the weather put paid to their plans. Snowstorms moved in, making it virtually impossible to see; the group got confused, travelling in the wrong direction and heading too far west. They could have moved downhill to set up camp in a sheltered area, taking some respite until the weather cleared, but Igor Dyatlov was reluctant to move downhill and then have to head back up later, and so the group, on realising they had gone the wrong way, simply stopped and established their camp on the eastern slope of Kholat Syakhl, a place whose name translates as the ominous 'Dead Mountain'. They were now exposed to the elements in the depths of a Russian winter.

Back in Yekaterinburg, nobody was aware that this is what had happened. Dyatlov had promised to send a telegram back to their sports club when the group returned safely to Vizhay - a date he estimated would be around 12 February, although he had mentioned to the poorly Yuri Yudin that the group might have to take longer. This was not unusual, and the group's friends and families would not have been too worried when no word was sent from Vizhay, as delays could occur. However, when nothing had been heard by 20 February, over a week later, relatives became concerned. A rescue group, involving students and teachers from the Ural Polytechnic Institute, set off in search of the party, but found nothing. Military forces were then sent - but still, it took until 26 February for there to be any news of the students.

> "THEY WERE NOW EXPOSED TO THE ELEMENTS IN THE DEPTHS OF WINTER"

It was not good news. The search party had found the students' campsite, which included a damaged - and abandoned - tent. Covered in snow, the tent contained all the group's known possessions, including their shoes. Leading out of the tent were eight or nine sets of footprints, indicating that the group, all shoeless, had made their way out of the tent into the snowy expanse, either barefoot or simply in their socks - something that made no sense, given the bitterly cold temperatures of around -30 degrees Celsius (-22 degrees Fahrenheit).

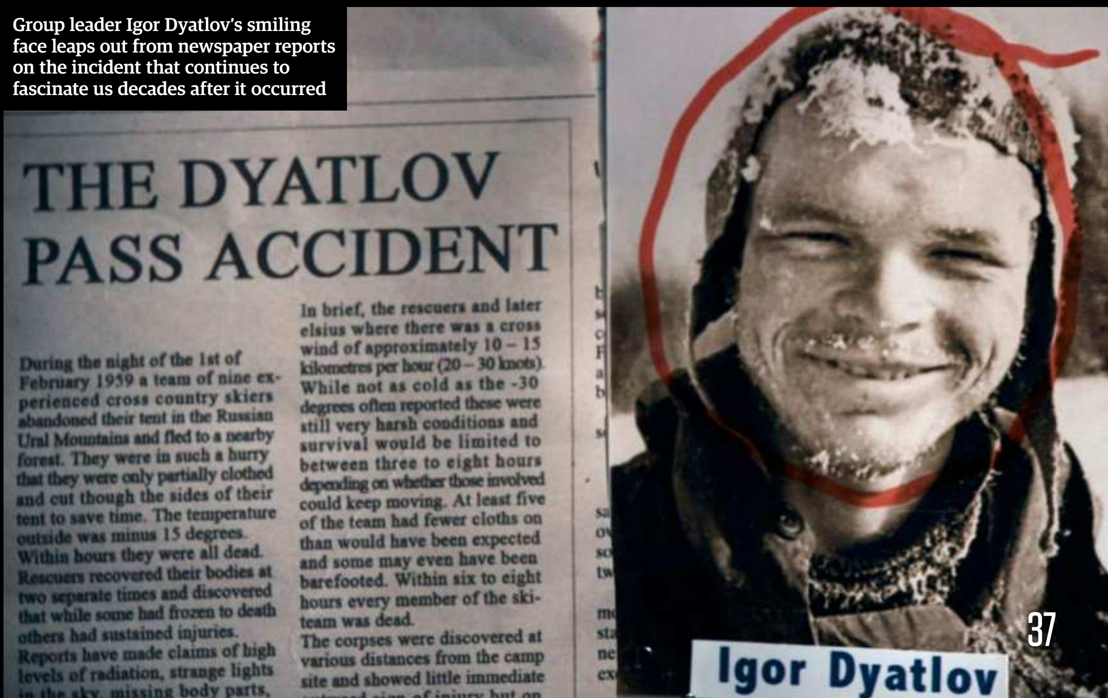
The tracks led 500 metres (1,640 feet) away, at which point they became snow covered. Under a Siberian pine tree were the remains of a small fire - and two bodies, clad only in underwear, barefoot. The bodies were those of Yuri Krivonischenko, and Yuri Doroshenko. Between the pine where the two men's bodies were found, and the abandoned camp, three more bodies were found, each at different distances from the tree. Two were Zinaida Kolmogorova and Rustem Slobodin; the third was the group's leader, Dyatlov.

This was where the story originally ended: no more bodies were visible. Then on 4 May, more than two months after the original, horrific discoveries, the final four - Lyudmila Dubinina, Alexander Kolevatov, Nikolai Thibeaux-Brignolles and Semyon Zolotaryov were found, buried under four metres (13 feet) of snow in a ravine. It looked like they had died at separate times, and as they had died, their clothes had been taken by the survivors in an attempt to keep warm. Lyudmila was wearing Yuri Krivonischenko's ripped trousers, for example, and had wrapped her left leg in someone else's torn jacket.

What had happened that could have caused the deaths of nine young, fit and well people? These were experienced ski-hikers; men and women who were used to the cold of a Russian winter. Why had they gone out barefoot, en masse, and why were their bodies found in different locations?

Theories abounded about their deaths. It was said that local indigenous people might have attacked the students for being on their territory, but there was no evidence either of other people being present at the time, or of any fighting. The inquests into their deaths should have settled the mystery, but instead, it seemed to increase it.

The first five students to have been found were deemed to have died from hypothermia, although it was revealed that Slobodin also had a small skull fracture. However, the bodies found in May were different. Three had substantial skull injuries



Group leader Igor Dyatlov's smiling face leaps out from newspaper reports on the incident that continues to fascinate us decades after it occurred

THE DYATLOV PASS ACCIDENT

During the night of the 1st of February 1959 a team of nine experienced cross country skiers abandoned their tent in the Russian Ural Mountains and fled to a nearby forest. They were in such a hurry that they were only partially clothed and cut though the sides of their tent to save time. The temperature outside was minus 15 degrees. Within hours they were all dead. Rescuers recovered their bodies at two separate times and discovered that while some had frozen to death others had sustained injuries. Reports have made claims of high levels of radiation, strange lights in the sky, missing body parts,

In brief, the rescuers and later elsius where there was a cross wind of approximately 10 – 15 kilometres per hour (20 – 30 knots). While not as cold as the -30 degrees often reported these were still very harsh conditions and survival would be limited to between three to eight hours depending on whether those involved could keep moving. At least five of the team had fewer cloths on than would have been expected and some may even have been barefooted. Within six to eight hours every member of the ski-team was dead. The corpses were discovered at various distances from the camp site and showed little immediate outward sign of injury but on

Image Source • Alamy.

(Nikolai had died from his); both Lyudmila and Semyon had serious chest fractures, yet no sign of external trauma or soft-tissue damage. Horribly, Lyudmila's eyes and tongue were missing, as were Semyon's eyes.

The official verdict was that all nine had died due to a 'compelling natural force', but it could not be determined what that was. Theories included an avalanche, or the effects of hypothermia, when a person believes they are actually warm, and try and take off layers of clothing, thus exacerbating the situation. But there were problems with determining what had happened exactly. Although some of the individuals had undoubtedly died of hypothermia – and Lyudmila Dubinina's missing eyes and tongue could possibly have been the result of putrefaction, her body being found face down in a stream – others had injuries that simply could not be explained. Although they had left behind cameras and diaries, there is still significant doubt about what happened to them. Postmortems showed that they hadn't eaten for six to eight hours before they had died, but what they were doing in those hours is not known.

That element of the unknown has led to their deaths 60 years ago continuing to be seen as a mystery. Newspaper reports have continued to explore the case over the subsequent decades. In 2013, a film was made based loosely on the events. Originally titled *The Dyatlov Pass Incident* (it was later renamed *Devil's Pass*), the fact that this film played rather fast and loose with the original events, and utilised previous theories involving military or even extra-terrestrial involvement, added to the sense of unreality surrounding the original chain of events. Director Renny Harlin says he believes the Dyatlov Pass incident was the result of a government experiment going wrong; one of the theories that has long been posited is the possibility that the group came into contact with the government testing of a nuclear or military weapon. Other theories, too, remain, from a parachute mine exercise to an assault by a Russian Yeti.

It is not, then, unsurprising that in February 2019, Russian prosecutors started a new investigation into the case, in an attempt to clear up the rumours and theories around the 'bizarre' deaths. A criminal investigation had originally been opened into the case in February 1959, but when it was decided that nature was to blame, the investigation was shelved after just three months. This newest investigation, though, will only look at three theories out of more than 75 that have been put forward to date. The spokesman for Russia's prosecutor general has made clear, though, that "crime is out of the question," and that the likely reasons for the deaths are either an avalanche, a snow slab or a hurricane. However, given suspicions about cover-ups, it's not certain that this investigation will end the mystery. It's more than likely that it will just keep attention focused on it.

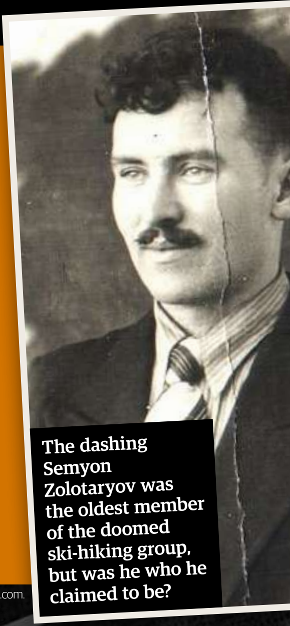
Who was Semyon?

There was a further mystery with the Dyatlov Pass nine, when the identity of one of their number was investigated

Semyon Alekseevich Zolotaryov (sometimes spelled Zolotarev) was the oldest of the ski-hikers that fateful February. Born on 2 February 1921, he was 38 at the time, and so might be assumed to have had a more varied life than the others, some of whom were young enough to be his children.

Yet his life might have been even more interesting than anyone could have ever imagined. Rumours abounded about who Semyon actually was, and reached a climax in 2014, when his remains were exhumed following several requests from journalists. His remains indicated first that his injuries were more consistent with a car crash than a natural event; and, even more shockingly, his DNA did not have any link to the DNA of known living relatives of Semyon Zolotaryov. His remains had been buried at the Ivanovskoe Cemetery in Yekaterinburg, Russia, but there were no burial records for anyone of that name there.

The only thing that could be determined positively was that a reconstruction of the face of the buried corpse had similarities to post-war photographs of Semyon. This has led to claims that the man who died in the Urals was someone who had adopted the identity of Semyon after the end of World War II for unknown reasons; truly a mystery in itself.



The dashing Semyon Zolotaryov was the oldest member of the doomed ski-hiking group, but was he who he claimed to be?

Image Source • findagrave.com.

THE QUEEN'S FAVOURITE

She was married to Elizabeth I's favourite, but Amy Robsart died in mysterious circumstances at the age of just 28

Half a millennium ago, Amy Robsart was found dead at the bottom of her stairs, sparking rumours and controversy that not only involved her husband, but also the queen herself.

Amy was born in 1532 in Norfolk. She was from a good family, her father being Sir John Robsart, a well-off farmer, and her family home being Syderstone Hall. She was given a good education, but was not expected to need to use it; instead, at the age of 17, she was married off to Lord Robert Dudley; her status can be determined from the fact that she married at the royal palace at Sheen, near Richmond in Surrey.

She should have had the world at her feet, being married to a good-looking man who was Queen Elizabeth's favourite. However, life was more difficult than the basic facts suggest. In 1553, Dudley was condemned to death and held in the Tower of London, where Amy visited him until he was eventually released a year later. Finances were subsequently tight (the couple had always been dependent on gifts of money from Amy's parents), but when Dudley then gained court office, the queen became somewhat enamoured of him, and rumours grew that if something were to happen to Amy, the queen would be rather keen to marry her widower.

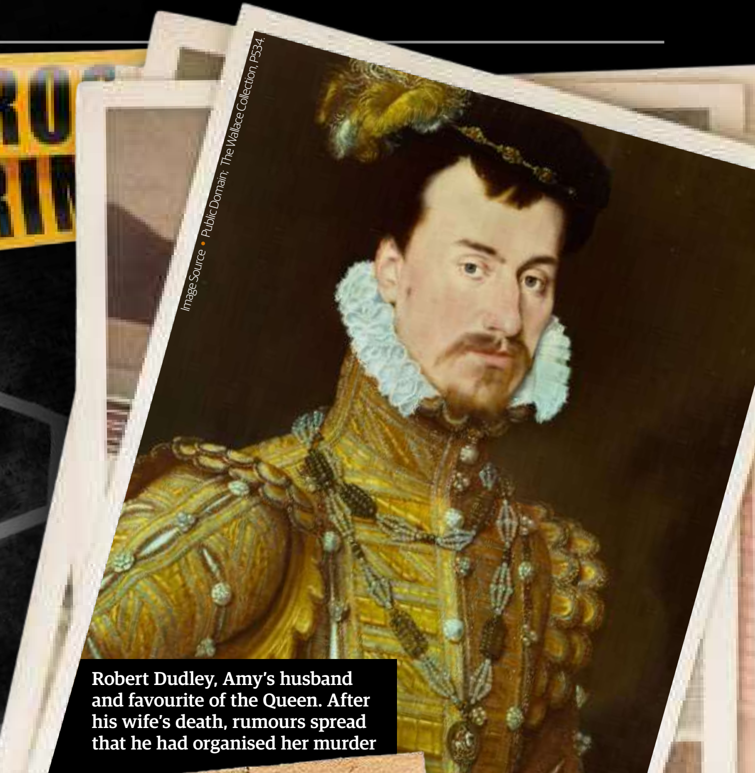


Image Source • Public Domain: The Wallace Collection, P534

Robert Dudley, Amy's husband and favourite of the Queen. After his wife's death, rumours spread that he had organised her murder

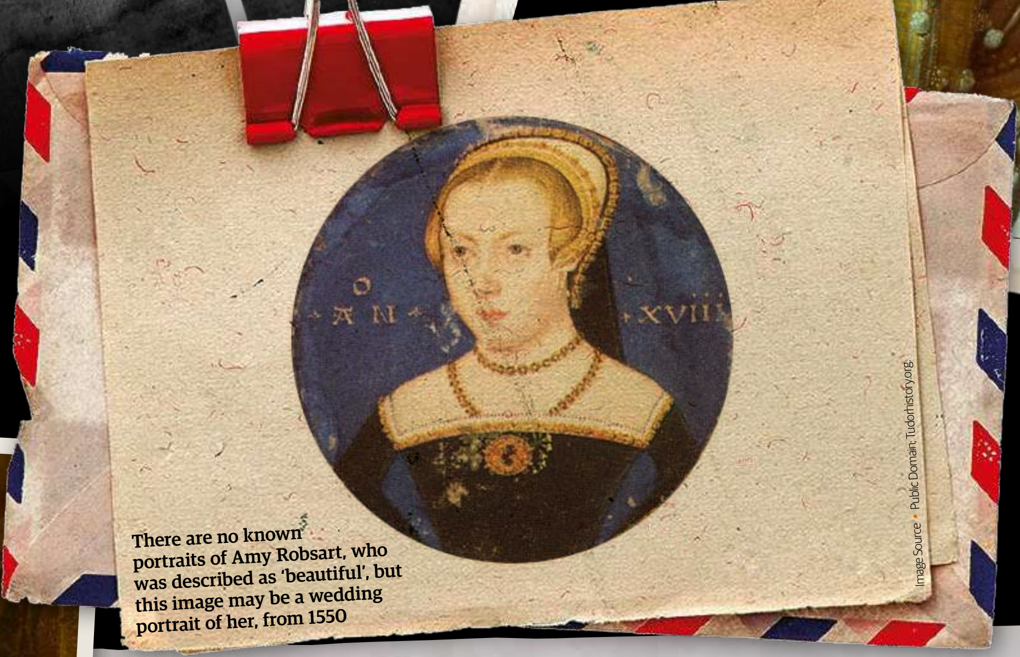


Image Source • Public Domain: Tudorhistory.org

There are no known portraits of Amy Robsart, who was described as 'beautiful', but this image may be a wedding portrait of her, from 1550

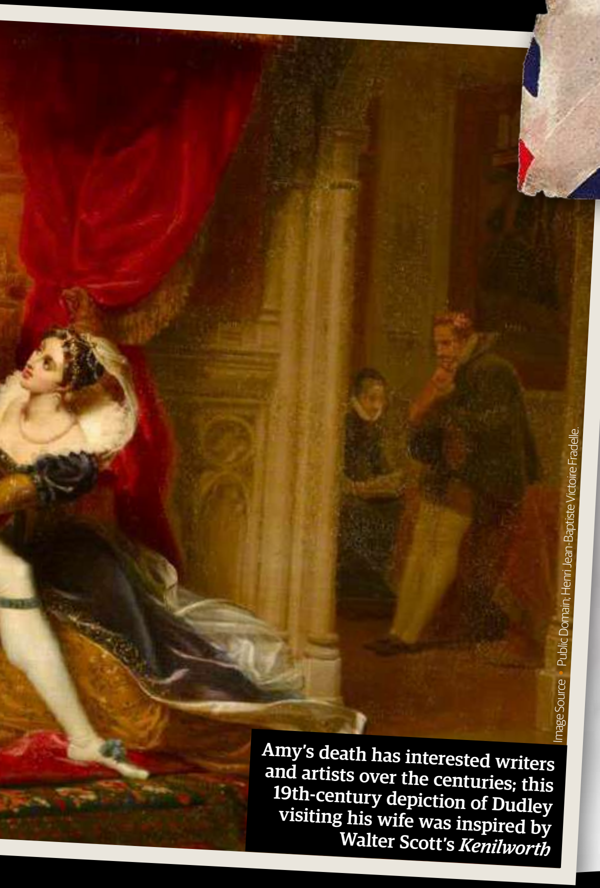


Image Source • Public Domain: Henri Jean-Baptiste Victoire Fradelle

Amy's death has interested writers and artists over the centuries; this 19th-century depiction of Dudley visiting his wife was inspired by Walter Scott's *Kenilworth*

> "DUDLEY HAD TO SPEND A LOT OF TIME WITH THE QUEEN. AMY RARELY SAW HER HUSBAND, AND BY THE TIME OF HER DEATH, SHE HAD NOT SEEN HIM IN OVER A YEAR"

The couple often lived apart, with different households. Dudley was made Master of the Horse, and had to spend a lot of time with the queen. Amy rarely saw her husband, and by the time of her death, she had not seen him in over a year. In the autumn of 1560, Amy was living at Cumnor Place, near Abingdon. One day, after sending away her servants, she was found at the bottom of a flight of stairs with a broken neck.

Although the coroner's inquest determined that her death was accidental, it still caused a scandal in Elizabethan society. Amy's husband, Robert Dudley, was believed to have arranged his wife's murder, and the queen's reputation was damaged as a result. These rumours of murder started as soon as Amy died – when Amy's maid was asked whether her death was 'chance or villainy' by Dudley's steward, Thomas Blount – and they have continued ever since. Walter Scott fictionalised the case in his 1821 novel, *Kenilworth*, and others have speculated about whether Amy was murdered or even committed suicide.

BELLA IN THE WYCH ELM

The Hagley Wood mystery started with boys searching for birds' nests, but ended as something more ominous

It was April 1943, and World War II was being fought, affecting the daily lives of millions. Yet in Hagley Wood, near Birmingham, children were continuing to play as normal, war being something of an abstract concept for the young.

On one spring day that April, four boys were out searching for birds' nests and their eggs. In their mid-teens, this might be the last year such innocent occupations would be their focus; it certainly would be after this fateful day.

The boys spotted a fascinating tree, an old wych elm. It had a hollowed-out trunk, and was rather creepy looking. Fifteen-year-old Bob Farmer was despatched to climb the tree, but from higher up, he looked back down into the hollow trunk. A face – or what had once been a face – was looking back at him.

Bob had seen a skull, still with some hair and skin attached. He and his friends, being curious boys still, although obviously shocked, examined the skull, before replacing it. When they got home, one boy told his father, who called the police. What they then found was the body of a young woman – taffeta stuffed in her mouth – wearing a blue, striped cardigan, a skirt, and a pair of old shoes. Her body was examined, and it was determined that she was around 35 years old, a mother, and small – just five feet tall. She had also been dead for up to two years.

Nobody seemed to know who she was, and after the initial interest in her, it waned, and her identity, it appeared, would never be known. But then, after eight months, graffiti started to appear locally, each being a permutation of the question: 'Who put Bella in the wych elm?' The graffiti was all in the same hand, but in different locations. Bella was referred to as Bella, Luebella, or 'Hagley Wood Bella'.

There were now two mysteries: who was the woman found murdered in the wych elm, and who was the person leaving the graffiti? Did that person know 'Bella', or know who killed her? Or was it the murderer himself or herself leaving incriminating messages, frustrated that the police could not get anywhere with the case?

Theories continued to be explored over the years that followed, mainly involving witchcraft, as Bella's hand had been severed. A decade after her corpse was discovered, a letter was sent to a local journalist, claiming that Bella had been killed as part of a Nazi spy ring. Then Bella's body itself went missing.

Over the past 70 years, Bella has continued to fascinate investigators and historians. In 2018, her face was re-created using craniofacial identification, but her identity remains unknown.

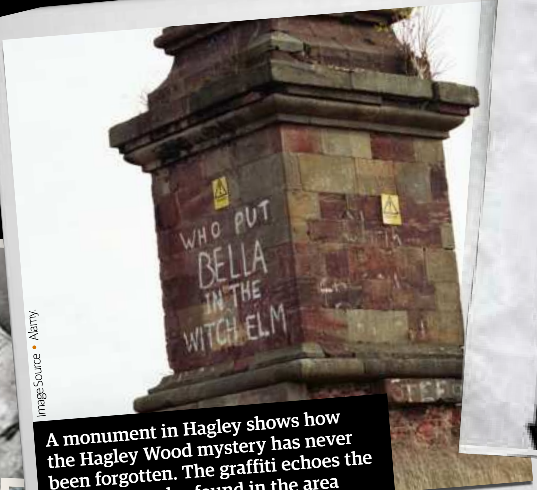


Image Source • Alamy.

A monument in Hagley shows how the Hagley Wood mystery has never been forgotten. The graffiti echoes the 1940s' examples found in the area

"Who was the person leaving the graffiti?"

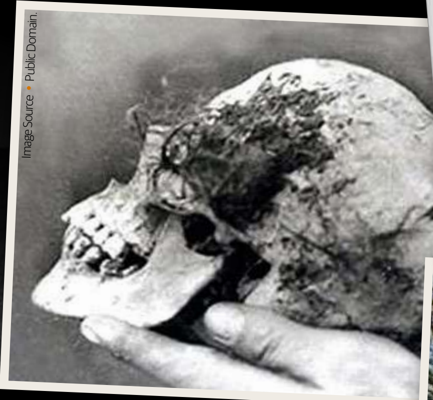


Image Source • Public Domain

The skull of Bella, the unknown woman whose body was found in a wych elm tree in the Midlands in 1943

Four boys found the body of a woman in a wych elm like this, when they were searching for birds' eggs

Image Source • Alamy.

drawing of 'Bella' and the clothes
e was found in was produced to
d identification, but the woman
mains unknown to this day

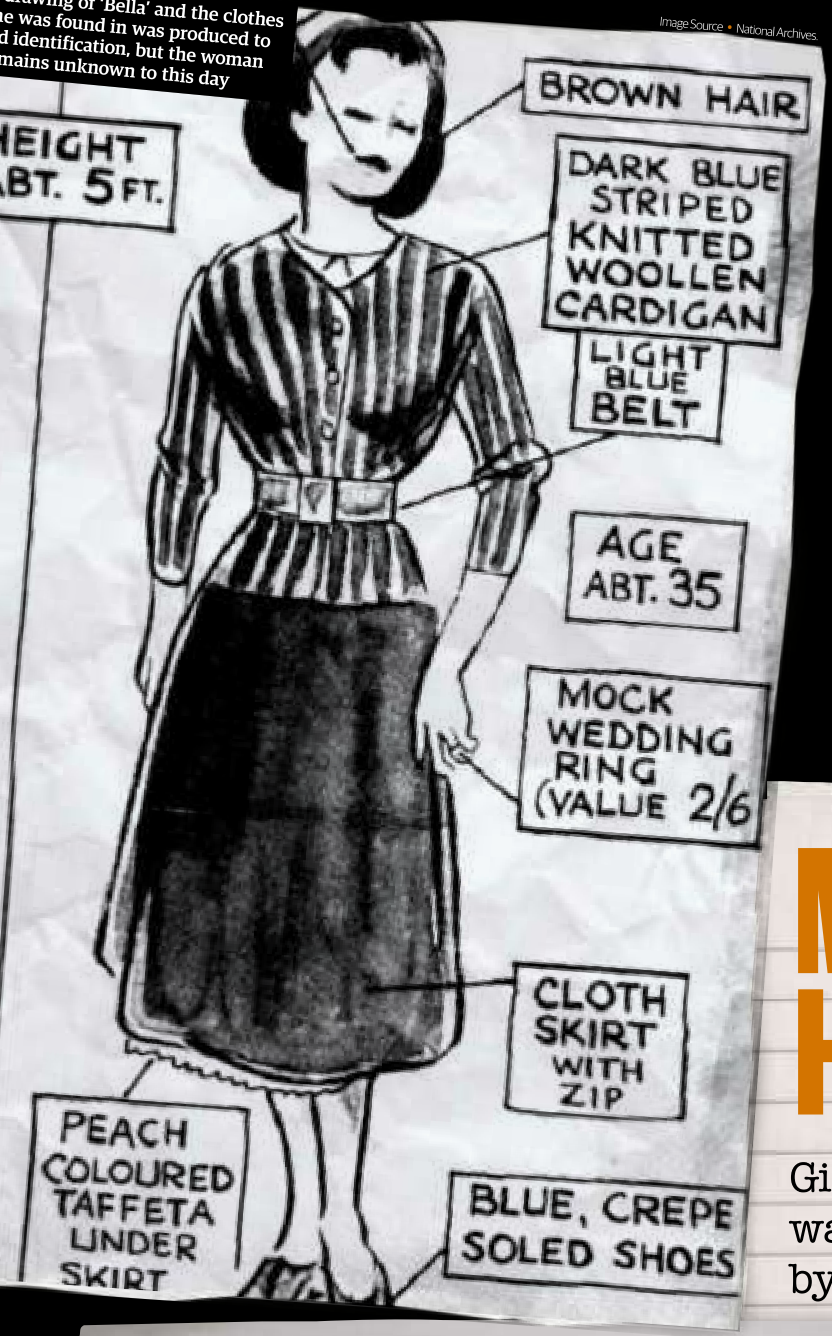

BROWN HAIR
HEIGHT ABT. 5FT.
DARK BLUE STRIPED KNITTED WOOLLEN CARDIGAN
LIGHT BLUE BELT
AGE ABT. 35
MOCK WEDDING RING (VALUE 2/6
CLOTH SKIRT WITH ZIP
PEACH COLOURED TAFFETA UNDER SKIRT
BLUE, CREPE SOLED SHOES

Image Source • National Archives.

> "GIOVANNI WAS FOUND, DEAD, IN THE RIVER TIBER. HE HAD BEEN STABBED NINE TIMES"

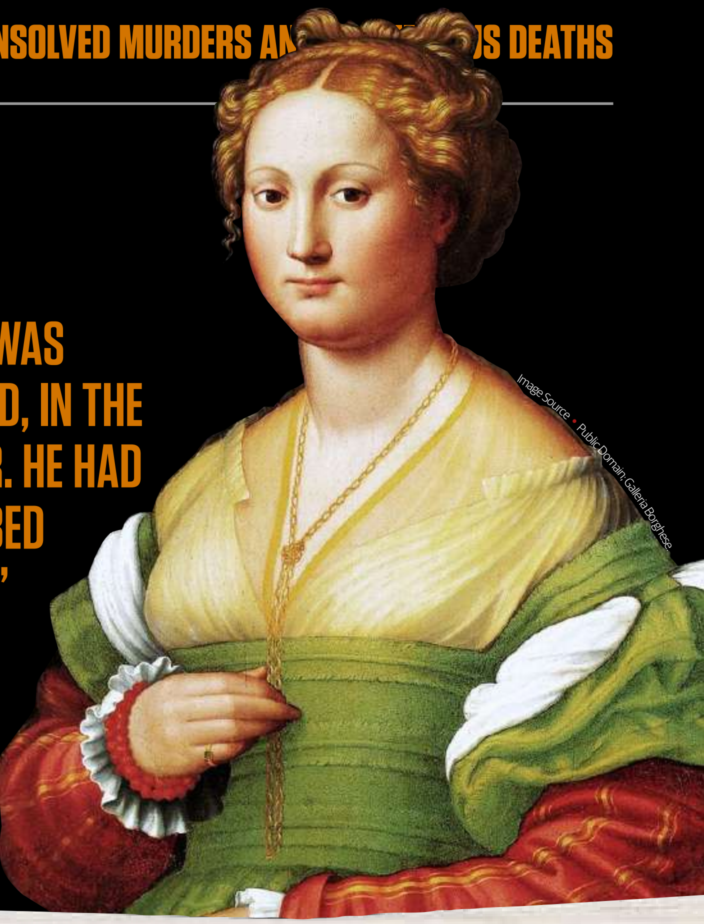


Image Source • Public Domain, Galleria Borghese

Giovanni was murdered after leaving a banquet held by his mother, Vannozza dei Cattanei, at her villa

MURDER IN THE HOUSE OF BORGIA

Giovanni Borgia, 2nd Duke of Gandía, was murdered in 1497 – but why, and by whom?

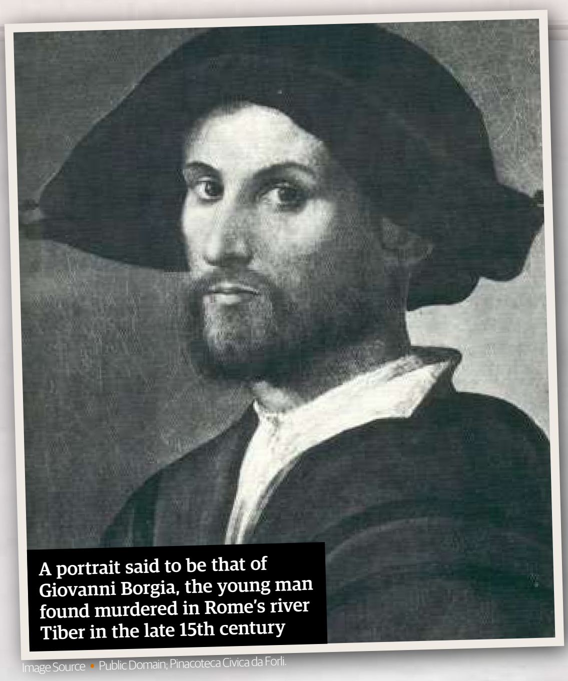
Much of his life is shrouded in mystery: the date of his birth and the place he was born are not definitively known. But it is probable that Giovanni Borgia, son of Pope Alexander VI and member of the infamous House of Borgia, was born around 1475 in Rome, to the future pope's married mistress. At around the age of 18, he married Maria, who had been engaged to his own half-brother before his death. Although the facts are slightly shadowy, it's certainly the case that Giovanni's family involved complex relationships and inter-relationships, set against a background of 15th-century Roman politics and culture.

On the evening of 14 June 1497, Giovanni's mother, Vannozza dei Cattanei, had held a dinner in his honour at her villa. His siblings were also present, together with other relations. He was last seen leaving his mother's villa and was never seen alive again.

The alarm was raised the following morning when his horse was seen galloping back with one of its stirrups cut. The horse was riderless; Giovanni was neither on it, nor near it. A search party was sent out, and soon Giovanni Borgia was found dead in the river Tiber. He had been stabbed nine times in the chest.

Robbery was evidently not the motive for his death: he was still clad in his grand clothes, and his purse - full of money - was still on his belt. The servant attending him the night before was also found killed.

Giovanni's father launched a murder investigation, but after just a week it was mysteriously closed. Rumours followed: the rival Orsini family could have killed this Borgia. It was also suggested that Giovanni's younger brother, Gioffre, may have killed him after discovering he had been having a relationship with his wife.



A portrait said to be that of Giovanni Borgia, the young man found murdered in Rome's river Tiber in the late 15th century

Image Source • Public Domain, Pinacoteca Civica da Forlì

THE BLACK DAHLIA

Found dead and mutilated in an LA street, Elizabeth Short has been the subject of many books since

E S
DAUGHTER
ELIZABETH SHORT
JULY 29, 1924 – JAN. 15, 1947

Image Source • DarkCryst at English Wikipedia.

Murdered on 15 January 1947, Elizabeth was just 22 years old

Her face still looks out from the covers of several books today. She looks away to the side, smiling; a striking young woman with a mass of artfully curled black hair, a made-up face and a look of hopefulness. This is Elizabeth Short, an aspiring actress at 22 years old. Another image, though, also shows the same woman in a different light. This time, she stares straight at the camera, mouth open, her expression more aggressive, less innocent, posing for a mugshot after her arrest for underage drinking. Both images are of Elizabeth, and they reflect the different sides of her personality.

Although she is forever now associated with Los Angeles, Elizabeth, who became known as the 'Black Dahlia', was actually born in Boston on 29 July 1924, the third of five daughters. Her father deserted his family when she was just five. Two years older than Marilyn Monroe, both, like so many other young women of the 1930s and 1940s, would seek to make their mark in the movie-making business. Unfortunately, Elizabeth was never to make it in life, although she became famous in death. She was quick to move from Boston, and was eager to settle in California, where her father now lived. She didn't get on with the man she hadn't seen since she was a child and soon moved on. In the summer of 1946, she moved to LA in the hope of getting an acting break. It never came.

Her body was found in a vacant lot near Leimert Park on the night of 15 January 1947. She had been cut in half, drained of blood and mutilated, but then – bizarrely – washed. A local woman found the nude body, looking more like a doll than a real woman. However, this was a woman – one whose face had been slashed, and whose intestines had been pulled out. She had been raped, but had died from blows to her head and face, her body being cut in half postmortem.

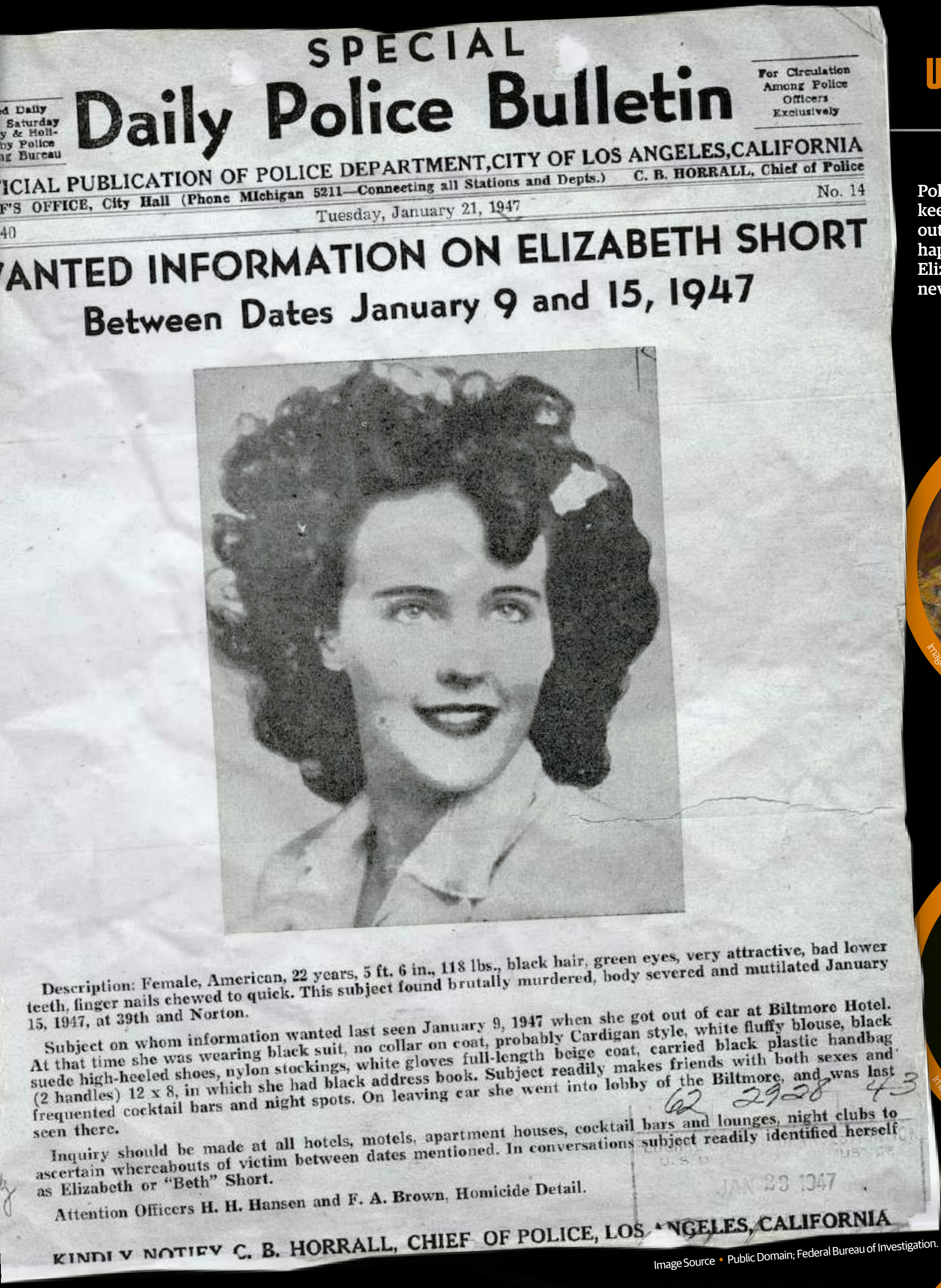
A crowd of onlookers soon began to gather at the scene, including journalists, and this became symbolic of the case – a murder that attracted, and continues to attract, substantial attention. It is now said to be one of the oldest unsolved cases in LA County, and despite numerous investigations, suspects and theories, it is likely to remain so.

"A LOCAL WOMAN FOUND THE NUDE BODY, LOOKING MORE LIKE A DOLL THAN A REAL WOMAN"

S CRIME SCENE DO NOT CR
E SCENE DO NOT CROSS CRI

Image Source • Getty Images.

Elizabeth Short was an aspiring actress who hoped her move to Los Angeles would bring her success. Instead, it brought her death



SPECIAL

d Daily
Saturday
y & Holi-
by Police
ng Bureau

Daily Police Bulletin

For Circulation
Among Police
Officers
Exclusively

ICIAL PUBLICATION OF POLICE DEPARTMENT, CITY OF LOS ANGELES, CALIFORNIA

F'S OFFICE, City Hall (Phone MIchigan 5211—Connecting all Stations and Depts.) C. B. HORRALL, Chief of Police

40 Tuesday, January 21, 1947 No. 14

ANTED INFORMATION ON ELIZABETH SHORT

Between Dates January 9 and 15, 1947

Description: Female, American, 22 years, 5 ft. 6 in., 118 lbs., black hair, green eyes, very attractive, bad lower teeth, finger nails chewed to quick. This subject found brutally murdered, body severed and mutilated January 15, 1947, at 39th and Norton.

Subject on whom information wanted last seen January 9, 1947 when she got out of car at Biltmore Hotel. At that time she was wearing black suit, no collar on coat, probably Cardigan style, white fluffy blouse, black suede high-heeled shoes, nylon stockings, white gloves full-length beige coat, carried black plastic handbag (2 handles) 12 x 8, in which she had black address book. Subject readily makes friends with both sexes and frequented cocktail bars and night spots. On leaving car she went into lobby of the Biltmore, and was last seen there.

62 2928 43

Inquiry should be made at all hotels, motels, apartment houses, cocktail bars and lounges, night clubs to ascertain whereabouts of victim between dates mentioned. In conversations subject readily identified herself as Elizabeth or "Beth" Short.

JAN 23 1947

Attention Officers H. H. Hansen and F. A. Brown, Homicide Detail.

KINDLY NOTIFY C. B. HORRALL, CHIEF OF POLICE, LOS ANGELES, CALIFORNIA

Image Source • Public Domain; Federal Bureau of Investigation.

Police were keen to find out what happened to Elizabeth, but never did

Possible poisonings

Famous people have often attracted enemies – so which 'natural' deaths might really have been deliberate poisonings after all?

KING JAMES I & VI

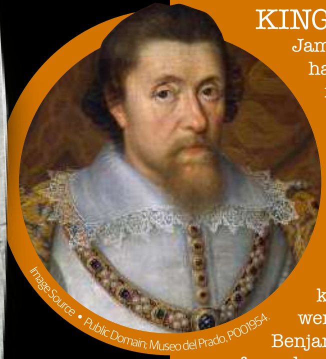


Image Source • Public Domain; Museo del Prado, P001954.

James I of England (VI of Scotland), had been reported to have been in ill health for some time before his death, apparently from dysentery, in 1625. However, he may actually have been poisoned by George Villiers, his former Gentleman of the Bedchamber, Lord Admiral of the Fleet, and Duke of Buckingham. Certainly rumours to that effect circulated after the king's death, although no charges were ever brought. Recently, author Benjamin Woolley has reignited the stories of murder, arguing that the ambitious Villiers may have killed his king after becoming frustrated with James's passivity.

WOLFGANG MOZART

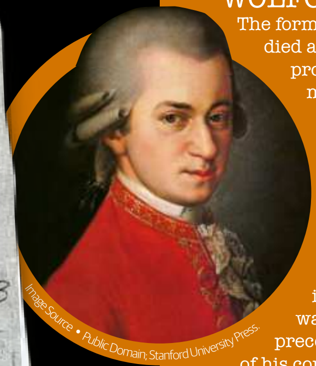


Image Source • Public Domain; Stanford University Press.

The former child prodigy Wolfgang Mozart died at the age of 35 in 1791, having produced a prodigious amount of music in his short lifetime. The nature of his death, however, has caused speculation over the centuries: he was bedridden, in pain and vomiting for a couple of weeks before he finally died. One persistent rumour is that he was poisoned by a fellow composer, the Italian Antonio Salieri, with it being argued that the older man was a jealous rival of the younger, precocious Mozart, and wanted to get rid of his competition.

NAPOLEON BONAPARTE

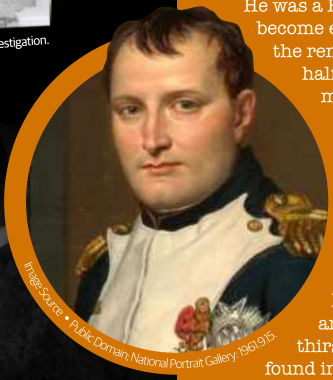


Image Source • Public Domain; National Portrait Gallery; 1961.9.15.

He was a French army officer who rose to become emperor, before being exiled to the remote island of St Helena. In his half-century of life, Napoleon achieved much, but was his death in 1821 a natural one? His autopsy gave the cause of death as stomach cancer, but this verdict may have been reached in order to satisfy the British, who had faced criticism over their exile of Napoleon, and their subsequent treatment of him. It has since been argued that he may have died from deliberate arsenic poisoning; he was abnormally thirsty before his death, and arsenic was found in his hair.

DISAPPEARANCES & DISASTERS

From missing people to ghost ships, will we ever find out what truly happened?

46 **A VANISHED COLONY: THE MYSTERY OF ROANOKE**
A 16th-century English colony in America showed great promise - but disappeared

50 **TERROR ON THE ICE**
How an obsession with finding an Arctic passage sealed the fate of HMS Erebus

56 **MARITIME MYSTERIES**
Disappearing boats and abandoned ships have littered the seas for centuries

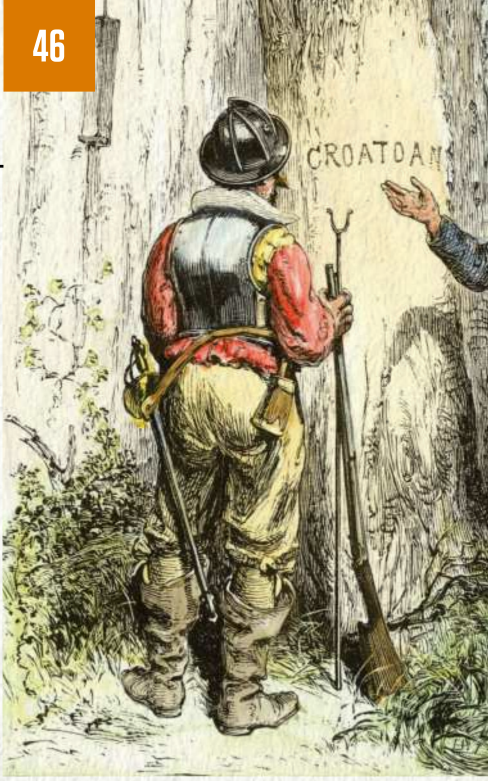
62 **THE HINDENBURG DISASTER**
What caused the fiery final flight of the world's most famous airship?

66 **THE LAST DAYS OF AMELIA EARHART**
Has the mystery of this aviator's disappearance finally been solved?

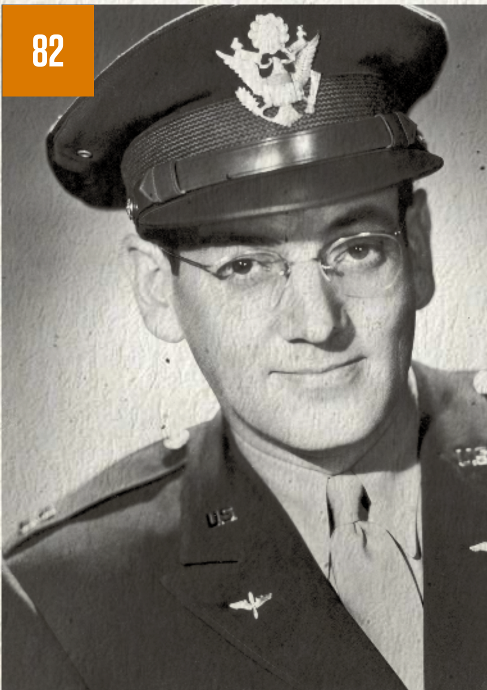
72 **THE DISAPPEARING SKYJACKER**
Who is the mysterious DB Cooper and what happened to him?

80 **VANISHED INTO THIN AIR**
From Agatha Christie to Glenn Miller, what happened to these famous faces?

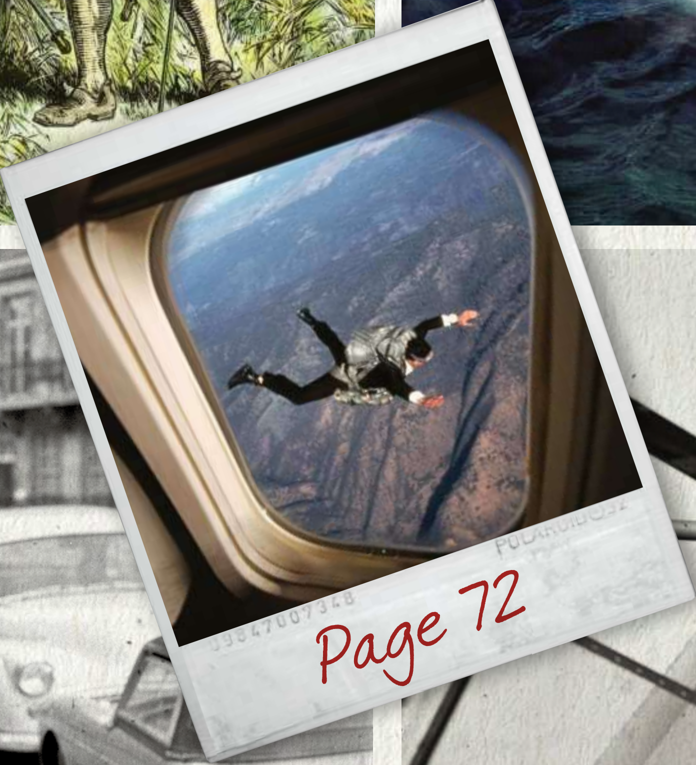
86 **THE BERMUDA TRIANGLE**
What is the truth behind the fabled and terrifying Bermuda Triangle?


46

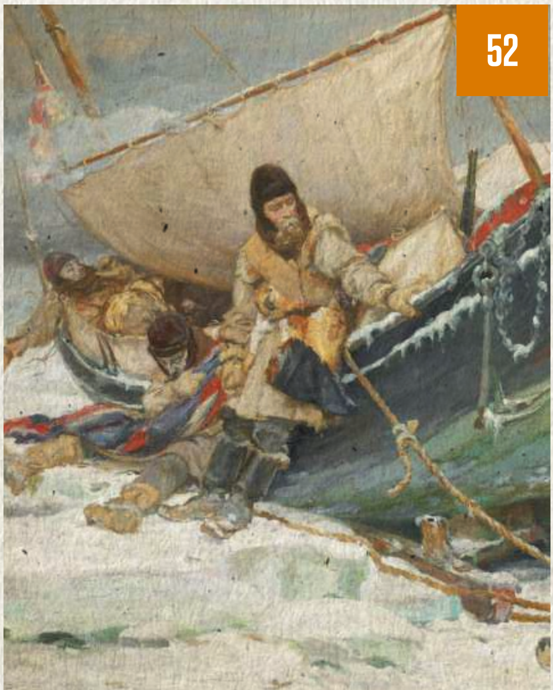
80


82

86



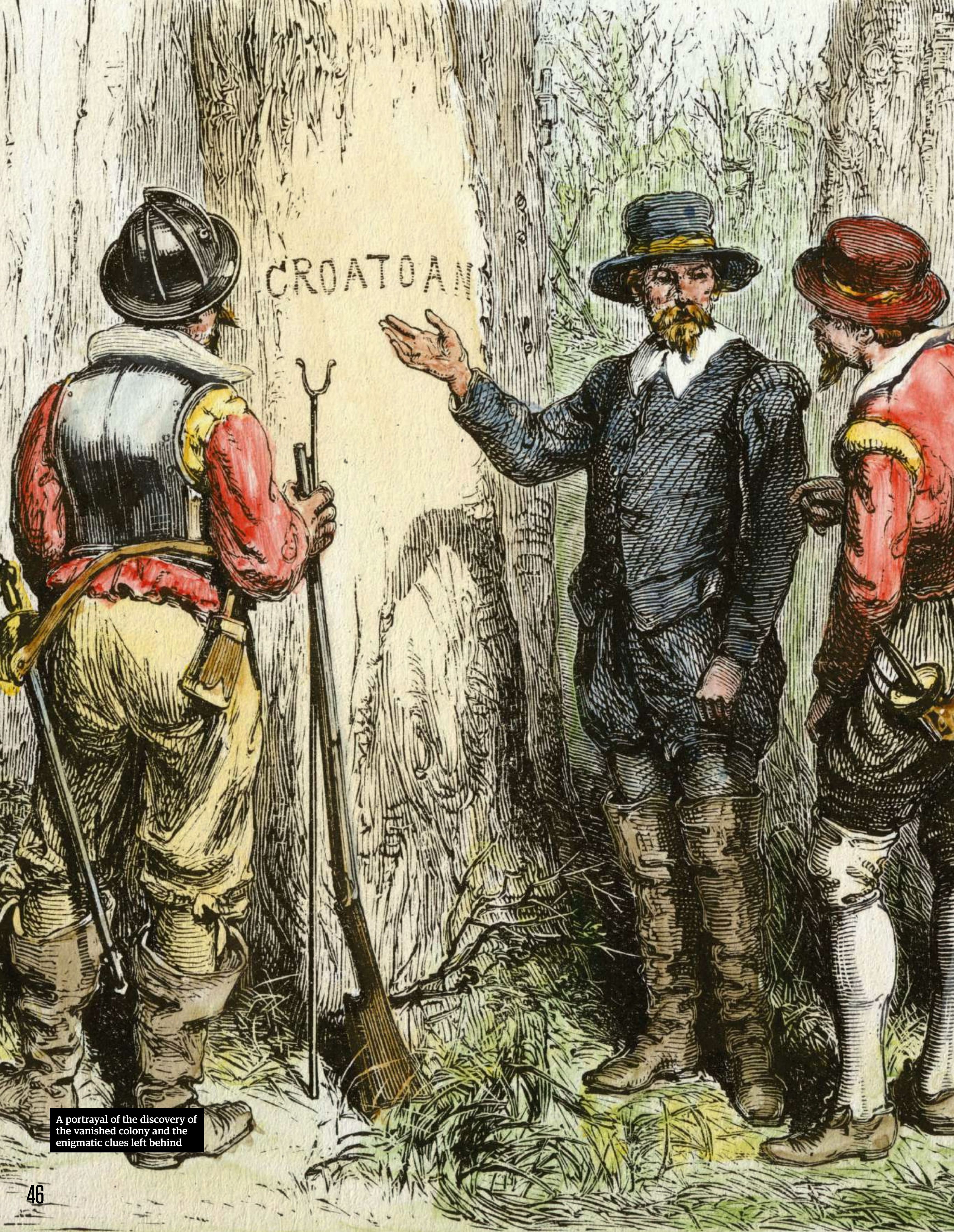
Page 72



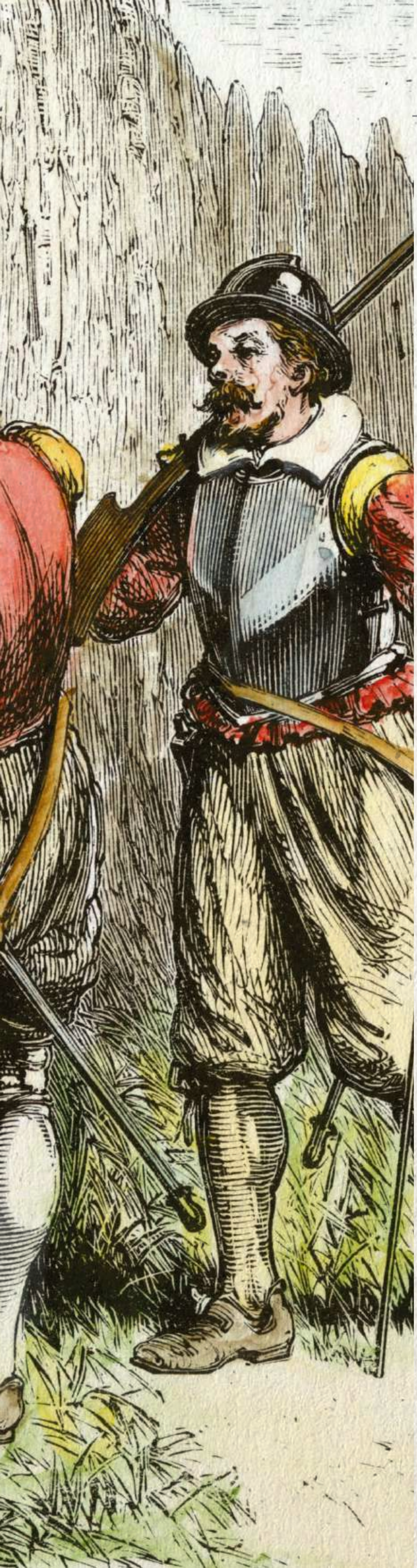
52

HAMMOND-Y
DEPARTM
BUREA

69



A portrayal of the discovery of the vanished colony and the enigmatic clues left behind



A VANISHED COLONY: THE MYSTERY OF ROANOKE

A 16-century English settlement on America's eastern seaboard held out great promise, and then simply disappeared. Historians have been wondering what happened ever since

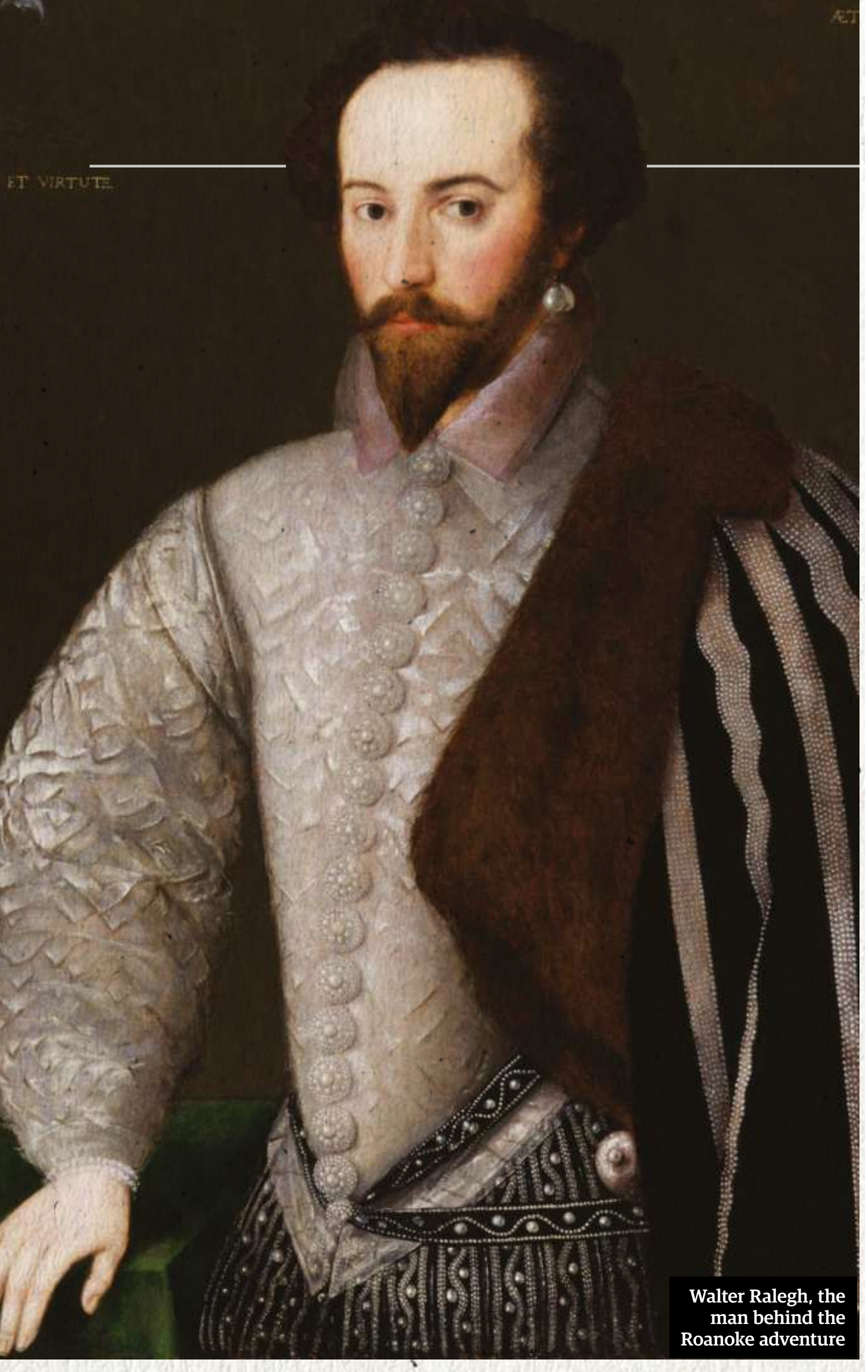
WRITTEN BY **JON WRIGHT**

It all began so well. Walter Ralegh, always keen to swell his coffers or enhance his reputation, had managed to secure a royal patent to establish English settlements on the other side of the Atlantic. As the 1584 royal document put it, "Such remote heathen and barbarous lands, countries and territories not already possessed of any Christian prince" were ripe for the picking. Needless to say, the indigenous inhabitants of such lands saw things rather differently. But a promising start was made. In 1584, Ralegh sent two ships, under the command of Philip Amadas and Arthur Barlowe, on a reconnaissance mission. The coastal areas of present-day North Carolina seemed particularly promising, and Roanoke Island stood out as a potential hub of English colonial endeavour. The locale was far more clement than alternatives further north, such as Labrador or Newfoundland. Privateers could use it as a base from which to attack Spanish ships; forays could be made westward in the hope of tracing a route to the Pacific; the Christian message could be spread; and perhaps there might even be precious commodities about the place. As it turned out, no gold turned up, but the Brits were at least introduced to tobacco and potatoes.

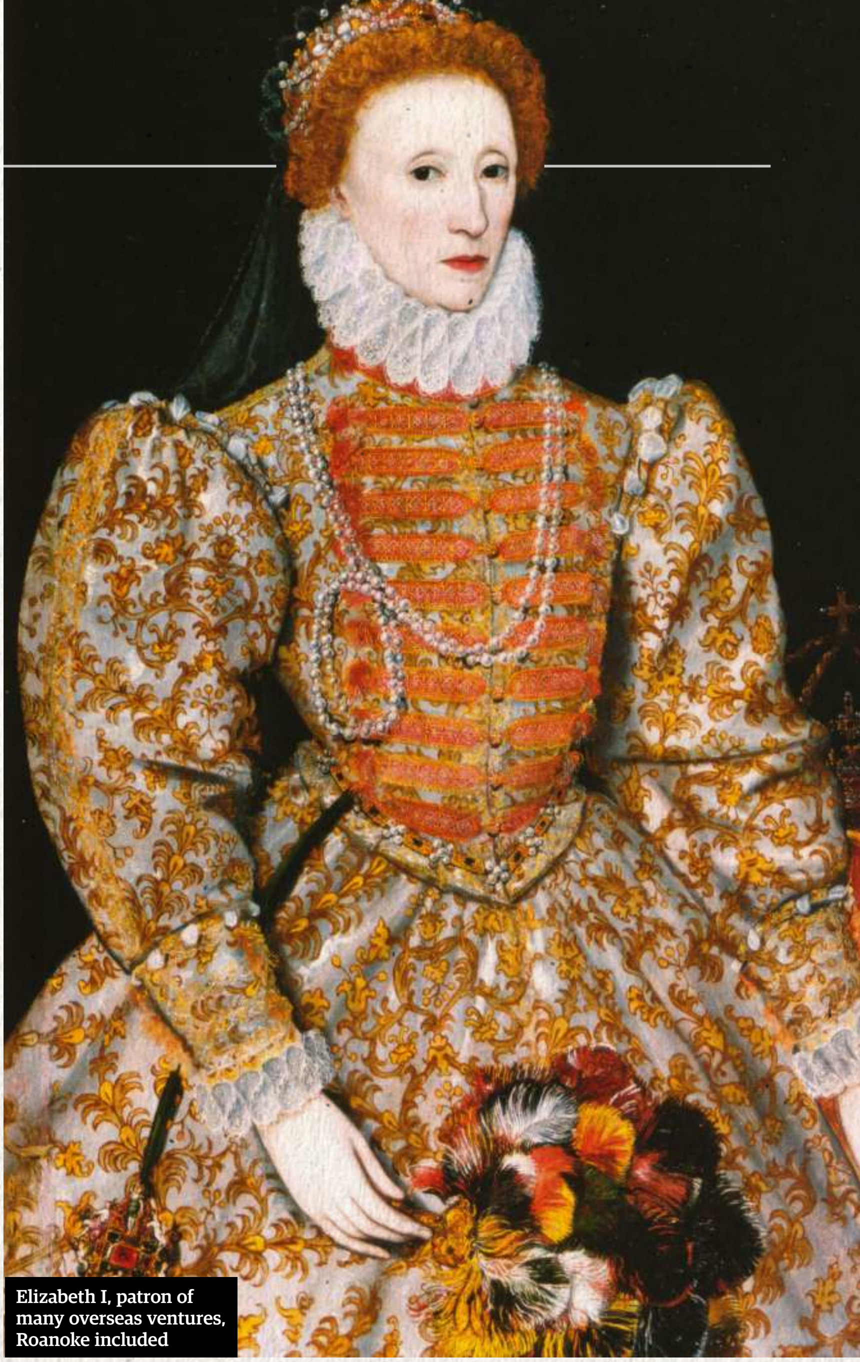
One of Tudor England's great PR campaigns was swiftly launched. Barlowe returned home and talked of "goodly woods full of deer" and the "highest, reddest cedars in the world." "How profitable this land is likely to succeed," Barlowe wrote. Relations with the Native Americans which, in truth, had been strained, were cast in as positive a light as possible. An image of the jolly swapping of goods was portrayed: 50 furs in exchange for a single copper kettle, for example. The friendlier inhabitants, Barlowe recalled, "sent us every day a brace or two of fat bucks, conies, hares" and "divers kinds of fruits, melons, walnuts." Barlowe was distressed by the region's religious habits but did his best to make things sound idyllic: no better way to drum up further investment. Better yet, two quasi-ambassadors, Manteo and Wanchese, eminent members of a local tribe, travelled back to England and caused quite the stir.

In 1585, a second, more substantial expedition was launched, under the command of Richard Grenville (Ralegh, while always the backer of the project, never took the trouble to visit). 600 or so people - mostly soldiers, but also a fair few craftsmen - set up camp, and fortifications began. Again, great strides were made, with the scientist

Image Source • Alamy.



Walter Ralegh, the man behind the Roanoke adventure



Elizabeth I, patron of many overseas ventures, Roanoke included

Thomas Harriot delving into the region's flora and fauna, and the painter John White producing some admirable maps and pictures. His watercolours would help to define European understandings of North America for generations to come. Unfortunately, loss of supplies en route meant that the would-be colonists were in a rather precarious position, so dealings with local tribes were of great importance. These did not progress terribly well, however, and while some useful relationships were certainly established, the situation - in general - shifted from frosty to hostile. 'Who were these English interlopers spreading disease?' appears to have been the entirely reasonable party line. For their part, the English settlers became increasingly brutish.

Grenville thought it best to flee the scene and engage in a spot of much more profitable privateering, leaving Ralph Lane and a hundred soldiers to sustain a presence at Roanoke. Matters deteriorated further so, soon enough, just a handful of troops were entrusted with the task of sustaining an English presence. The lack of a deep water port also made Roanoke a less attractive proposition than it had first seemed. Aims had now shifted, so perhaps it was wiser to seek a haven elsewhere, with Chesapeake Bay at the head of the list. Grenville stopped by following Lane's departure, finding nothing more than a few bones of a dead soldier. This was not the end of the story, however.

In 1587, John White led a third expedition. The goal was to head to the Chesapeake, but the mission stopped off at Roanoke to assess the situation. After heated arguments, an odd decision was made. White, appointed governor, and his 117 fellow travellers would once more labour to establish a Roanoke colony. It did not go well, with one of White's advisers, George Howe, being found dead in the woods, impaled with 16 arrows. The colonists returned the favour, and a catalogue of mishaps and misunderstandings ensued.

In the hopes of securing supplies and support in England, White traversed the Atlantic. This proved to be a case of bad timing. What with the Spanish Armada and blocked sea routes, White's return to America was delayed. When he finally made the trip, in 1590, he found an entirely deserted settlement at Roanoke. This was quite the mystery, and it did not take long for the speculation to begin. The letters 'CRO' were found carved on a tree, and the word 'Croatoan' had been inscribed on a post. This fitted with the idea of a prearranged signal being left behind by the colonists if they had moved on. If they had been forced to decamp, they would also leave the sign of a cross. White saw no cross, so he was hopeful that the colonists were still alive somewhere.

Ah, but where? The obvious candidate was Croatoan - an island named for a local tribe (present-day Hatteras Island) - but White was obliged to sail home, and never had the opportunity to test his theory. Various attempts

> **"WHITE SAW NO CROSS, SO HE WAS HOPEFUL THAT THE COLONISTS WERE STILL ALIVE SOMEWHERE"**

Image Sources • 1. Public Domain; National Portrait Gallery: NPG 7. • 2. Public Domain; National Portrait Gallery: NPG 2082

“THEORIES HAVE STRETCHED TO THE LIMITS OF THE BIZARRE – EVEN CANNIBALISM HAS BEEN SUGGESTED”

were made to solve the puzzle: an expedition in 1603, for example, and various missions following the establishment of the Jamestown colony in 1607. But 400 years later, we simply cannot be sure of what happened.

Some have suggested, with not an ounce of proof, that the Spanish arrived and destroyed the Roanoke colony; others wonder if the colonists decided to risk a sea voyage home and sank without trace. Perhaps the locals simply decided to massacre them. The most intriguing, and perhaps the most plausible, notion is that the colonists, stranded and living through (as climate history suggests) a truly awful spell of weather, opted to assimilate themselves into the local population. The trouble is, any number of potential new homes have been suggested.

All manner of clues have cropped up through the years, but none of them are conclusive. Archaeological work has found English items in various places - but is this evidence of the Roanoke people’s presence, or just the result of trading goods? Stone buildings, alien to the indigenous tribes, have been located. A hint that some ex-Roanoker was in residence? Various Native American groups have suggested that some of their folk are the ancestors of the Roanoke colonists, but this still remains in the category of oral, unverifiable history, despite the efforts of modern DNA science to pin things down. False leads are also abundant: notably the so-called Dare Stones, named for Eleanor Dare, the daughter John White, marked with inscriptions that purported to tell the tale of what transpired in the 1580s. They talk of slaughter and a handful of survivors, but most scholars believe that, with one possible exception, these artefacts are fakes.

Theories have stretched to the limits of the bizarre - even cannibalism has been suggested - but historians continue to grapple with the mystery. A recent highlight was the discovery of a sign on a map, hidden beneath a patch and only visible via back-lighting, that may have indicated the presence of a resettled fort 80 kilometres (50 miles) or so from Roanoke. Perhaps that’s where they, or some of them, ended up. Or perhaps, in multiple groups, they ingratiated themselves with more than one tribe and were caught up in conflicts and blotted out.

It is, one suspects, a puzzle that will one day be solved. After all, the archaeological digs continue. But the ‘not knowing’ has had a phenomenally important impact on US culture ever since. Almost every American schoolchild is likely to be able to tell you something about Roanoke. It is a puzzling story: one of everything going terribly wrong. Thomas Harriot, who was there from the start, wrote of all that Roanoke had to offer. He talked of otters, pearls and sugar cane, of alum on the coastline, and “a kind of grass in the country upon the blades whereof there groweth very good silk in the form of thin glittering skin.” Quite the paradise but, whatever the specifics, perhaps one of the reasons the English lost out was that they behaved badly towards the people who had lived there for many centuries.

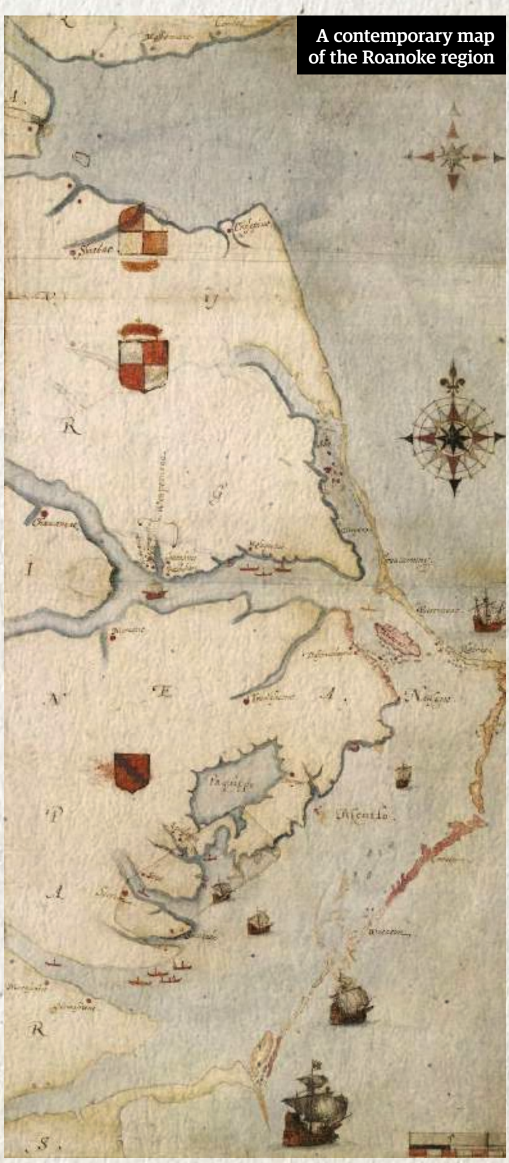

A contemporary map of the Roanoke region

Image Source • Public Domain; British Museum

Virginia Dare and the creation of a mystery

Few figures better encapsulate the American fascination with what happened at Roanoke than Virginia Dare

There are people in the past about whom we know a great deal. Others are almost entirely lacking when it comes to biographical detail. Virginia Dare is solidly in the latter camp, but this has not diminished her extraordinary influence in American culture. She was the granddaughter of the colony’s governor, John White, and it is often suggested that she was the first child of English ancestry ever to be born (1587) in New England. Along with all the other Roanoke settlers, she had vanished by the time White returned in 1590, but her mystique has proven to be addictive. Dare has been used as an advertising symbol for everything from candy to wine. She has been perceived as a model of female fortitude, as the ultimate proto-American and, much less happily, she has been recruited by an alarming number of bigoted groups. During the Civil Rights era, racists claimed her as a symbol of supposed racial purity – an abomination that continues to this day – and those who oppose immigration are apt to invoke her name, which has to be silly, since her parents travelled across an ocean to Dare’s birthplace. Dare has been the subject of countless films and novels and, in her way, captures the frustrating uncertainty of the Roanoke mystery.

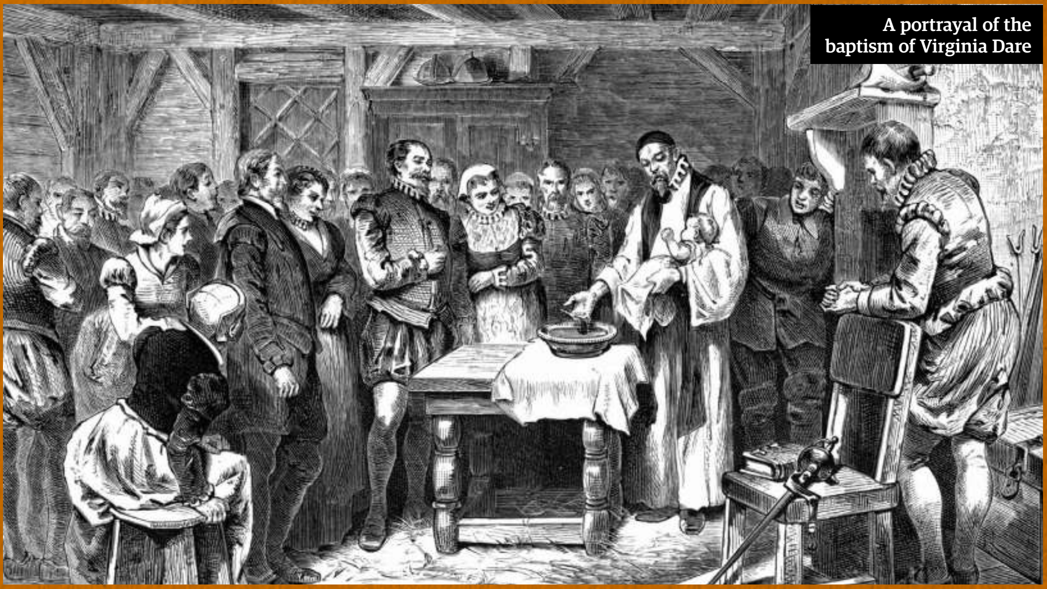
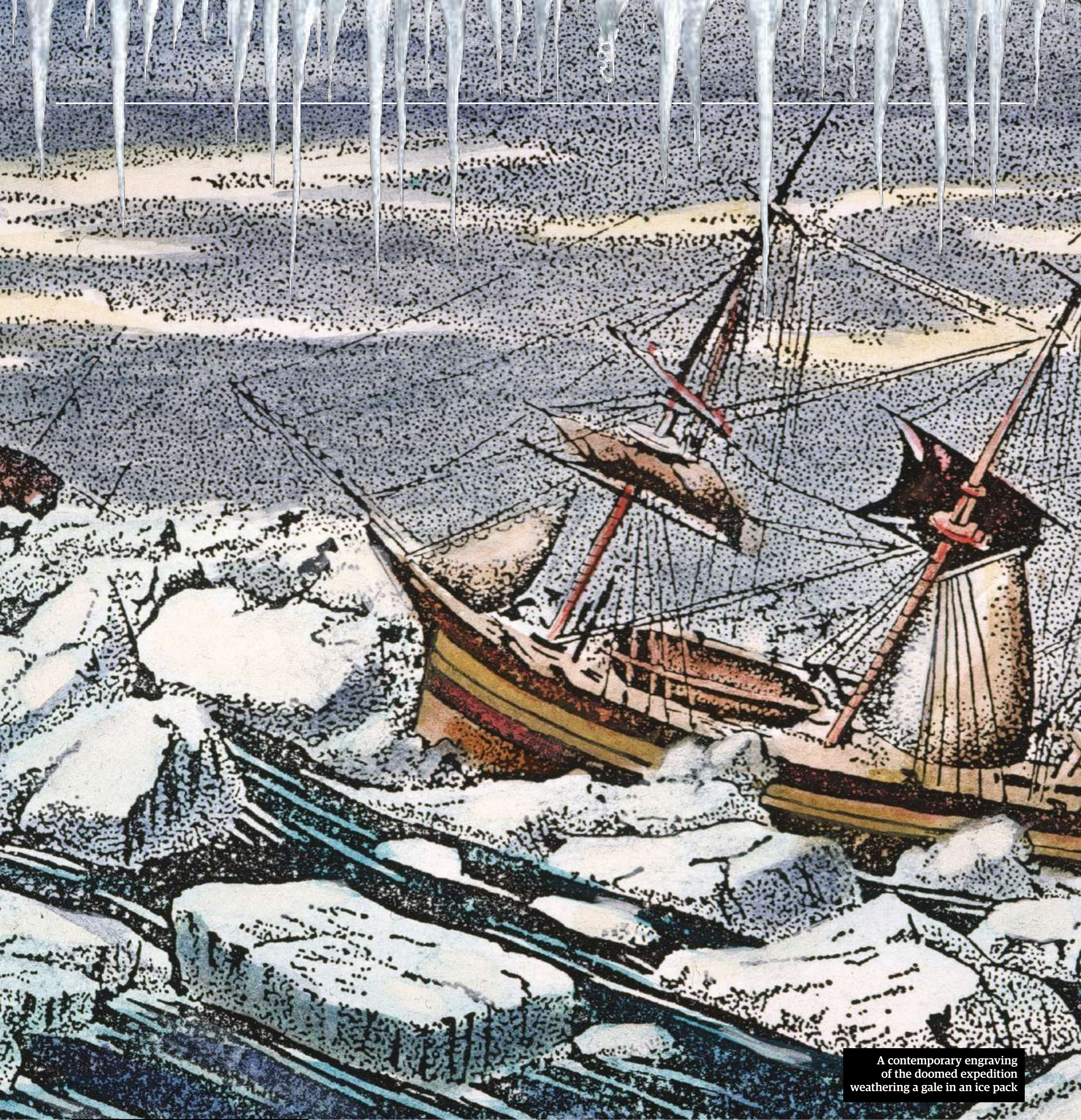

A portrayal of the baptism of Virginia Dare

Image Source • Public Domain; Samuel Walker and Company



A contemporary engraving of the doomed expedition weathering a gale in an ice pack

EXPEDITION

FROM THE EXPEDITION'S HOPEFUL INCEPTION TO ITS DISASTROUS DISAPPEARANCE

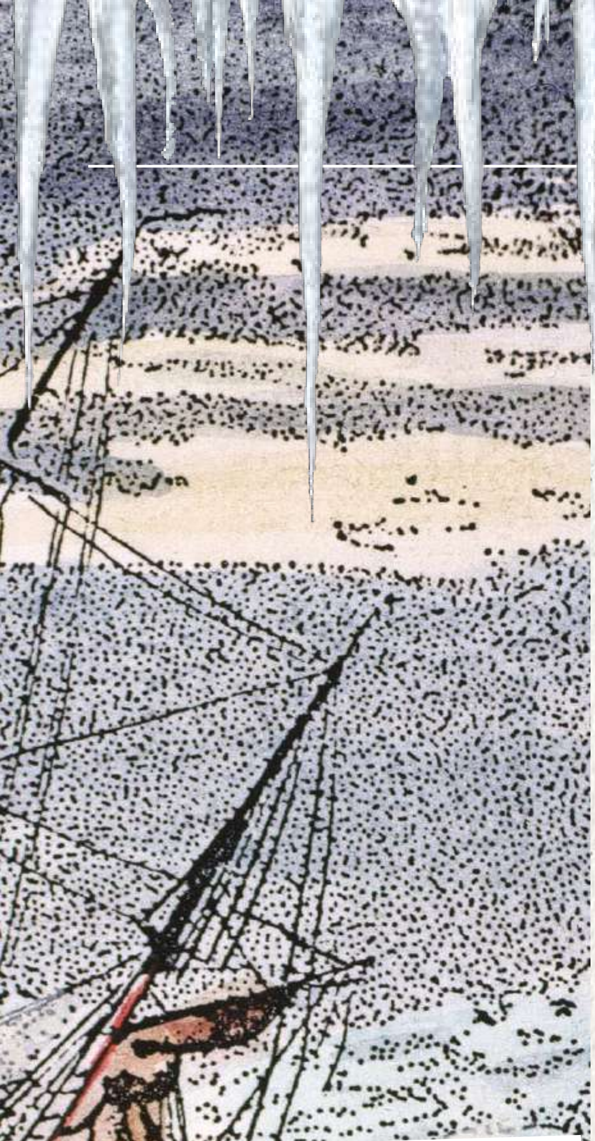
DECEMBER 1844
At the instigation of Sir John Barrow, second secretary to the Admiralty until 1845, a new expedition is mounted to map the Northwest Passage once and for all.

JANUARY 1845
Despite Admiralty misgivings regarding Franklin's age, he is given the commission to lead the search for the Northwest Passage after Captain James Ross declines the offer.

MAY 1845
Days before setting sail, Franklin, recovering from a bout of flu, remonstrates with his wife for placing an embroidered silk Union Jack over his body while in bed. He declared it a bad omen.

19 MAY 1845
HMS Erebus and HMS Terror set off from Greenhithe, Kent. They sail for the Orkney Islands taking the North Sea route. Franklin is well regarded as a captain by the officers and crew alike.

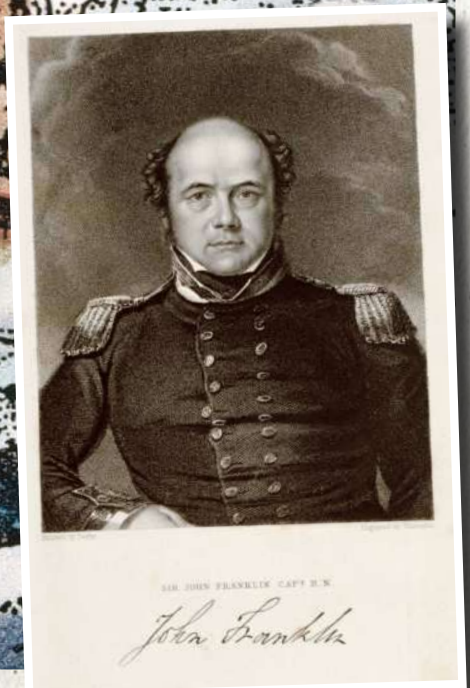
JUNE 1845
From Stromness, Orkney, the two vessels head out across the North Atlantic to Disko Bay, Greenland. They are accompanied by Barretto Junior, a transport ship carrying provisions for the teams on board.



TERROR ON THE ICE

How an obsession with finding the fabled Northwest Passage through the Arctic doomed John Franklin and his 128 men

WRITTEN BY **MARTYN CONTERIO**


SIR JOHN FRANKLIN CAPT R.N.
John Franklin

“Inspirited by this wind of promise, my daydreams become more fervent and vivid. I try in vain to be persuaded that the pole is the seat of frost and desolation; it ever presents itself to my imagination as the region of beauty and delight.” These are the words of Robert Walton, a fictional explorer in Mary Shelley's novel *Frankenstein*, but they could be the remembrances of a real-life navigator as so many have obsessed over finding a route through the Arctic Ocean. Unfortunately, this did not end well for John Franklin, who learnt the hard way that the pole truly is a seat of frost and desolation in 1845.

Over the years, this quest to find the fabled Northwest Passage - as the route through the Arctic is known - frustrated famed explorers including Francis Drake, Francisco de Ulloa, Martin Frobisher, Henry Hudson and James Cook. But in the 19th century, with better scientific and geographic knowledge, the search was taken up in earnest with over 65 expeditions to the region, compared with only nine in the 1700s and 21 in the 1600s. The Russians, Norwegians and Swedes all sought to find a way through the ice, but arguably none were more obsessed with doing so than the British.

The Northwest Passage held such an allure because it would dramatically shorten the time it would take to sail from the Atlantic to the Pacific. The only existing options - going around the Cape of Good Hope in South Africa or Cape Horn in Chile - could take several weeks and meant passing through treacherous waters. Finding a trade route through the Arctic waters would give sailors a huge commercial advantage.

The driving force behind British Arctic exploration was John Barrow, who was second secretary to the Admiralty from 1808 to 1845. The son of a Cumbrian tanner, Barrow had worked his way into the senior naval position - earning himself a baronet along the way - by proving himself a skilled administrator during the Napoleonic Wars. After France was defeated,

LATE JULY 1845
At Disko Bay, the Barretto Junior's crew slaughter ten oxen for their meat. Letters are written by officers and sent back with the ship. Five crew, unfit for the journey, return to the United Kingdom as well.

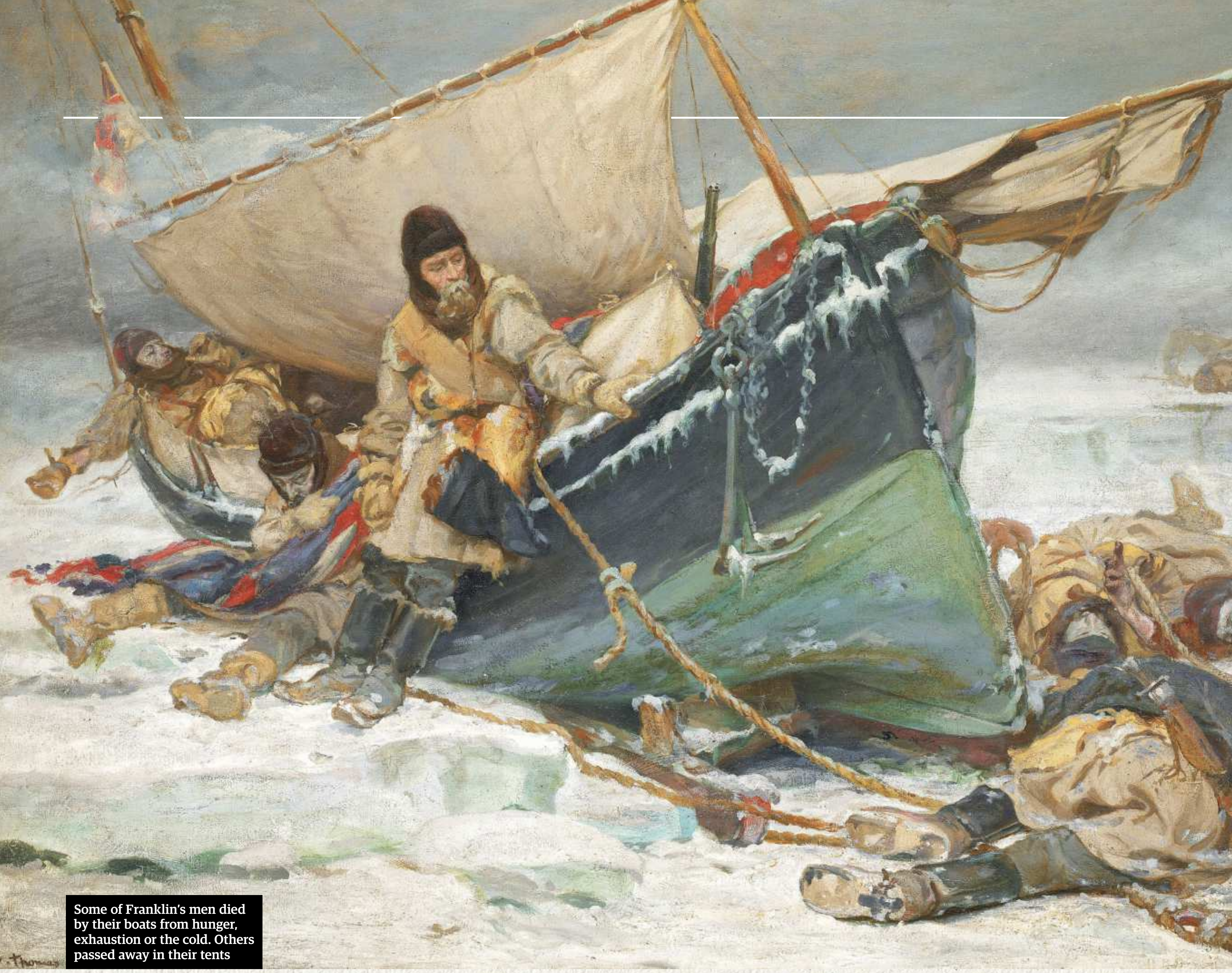
JANUARY 1846
The expedition lands at Beechey Island for the winter, where three crew die. William Braine, John Torrington and John Hartnell are buried in neatly made graves that are discovered in 1850.

12 SEPTEMBER 1846
Erebus and Terror leave Beechey Island and set off across Peel Sound and down the west coast of King William Island. They are trapped in ice for two winters.

22 APRIL 1848
The ships are abandoned, having been stuck since September 1846. The ice fails to melt to free the vessels the previous summer.

26 APRIL 1848
The remaining crew plan to set off for the mouth of the Back River, which would lead to a Hudson's Bay Company outpost over 1,500 kilometres away. They have no chance.

Image Sources • Main Image: Alamy • Secondary Image: National Maritime Museum, London; Parks Canada Thierry Boyer.



Some of Franklin's men died by their boats from hunger, exhaustion or the cold. Others passed away in their tents

Image Source • Above: National Maritime Museum, London; Parks Canada Thierry Boyer.

"THEY SHOULD HAVE HAD ENOUGH PROVISIONS TO LAST SEVEN YEARS"

he was charged with finding a peacetime purpose for the large number of ships and officers the British Navy had amassed.

Barrow sent the navy north to map every inlet of the Canadian Arctic, with the first expeditions setting off in 1818. Over the next 27 years, naval explorers made several unsuccessful attempts to solve the enigma of the Northwest Passage, but they did build up detailed maps of many miles of Arctic coastline. Armed with these charts, Barrow was certain the route would soon be within their reach. In an 1844 letter to Lord Harrington, first lord of the Admiralty, Barrow opined, "The discovery, or rather the completion of the discovery, of a passage [...] ought not to be abandoned, after so much has been done, and so little now remains to be done."

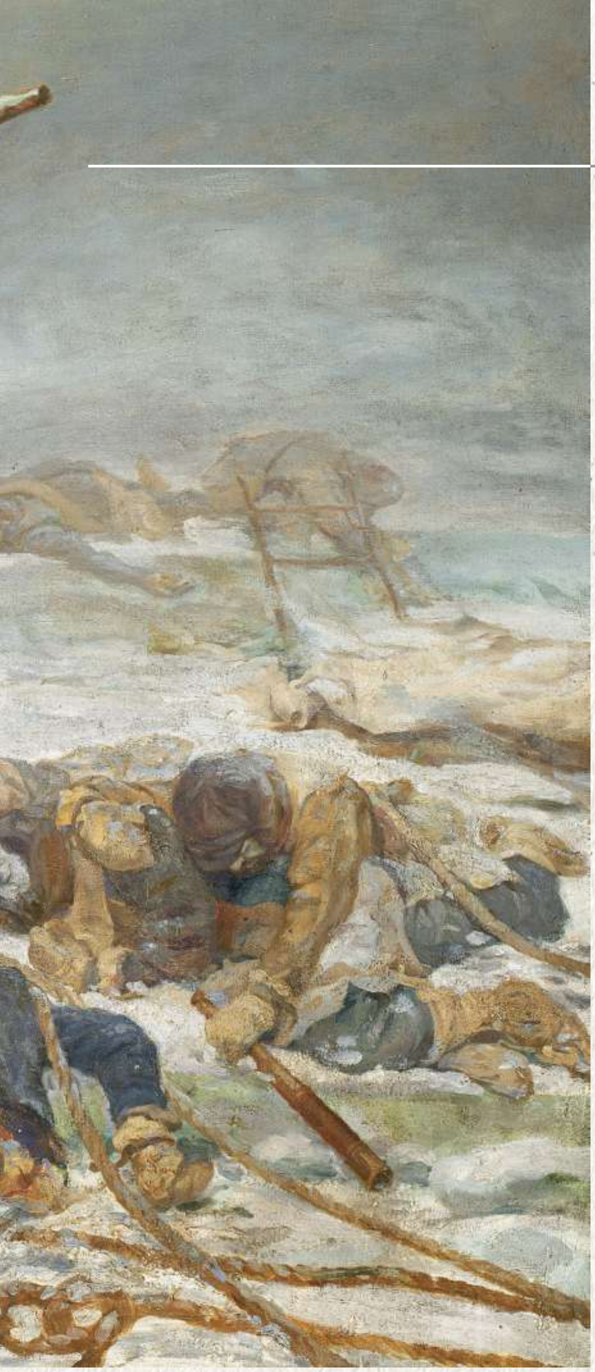
Barrow decided to mount a major expedition deep into the Arctic Circle. Captain John Franklin was chosen to lead the voyage - but only after several candidates were either ruled out or declined. Franklin was 59 years old and had been retired for 18 years, having served as governor of sunny Tasmania for the last seven. However, in his prime, he had been to the Arctic three times and was a deeply respected explorer. He achieved nationwide fame after his first expedition, in which half of his crew died of starvation, earning him the nickname 'the man who ate his boots' after he was forced to literally eat boot leather to stay alive.

Franklin proposed to tackle the passage via Cape Walker and Bank's Island. If that proved impossible, he would head north through the Wellington Channel and go north of the Barrow Strait (named in honour of John Barrow). In May 1845, he set off with a 128-man crew and two ships: HMS Erebus and HMS Terror. While these were warships, they had been adapted for polar exploration for James Clark Ross' expeditions to Antarctica in 1840.

Both vessels had 25-centimetre belts of timber, sheet iron on their bows to cut through sea ice and to take the strain of being trapped in it, and beams protecting the hull. They also benefitted from tubular boilers and steam apparatus, which provided hot water and heating. A 25-horsepower locomotive engine was fitted into the Erebus, purchased from the London and Greenwich Railway, and Terror was fitted with a 20-horsepower engine.

Erebus and Terror boasted a library of 2,900 books and journals between them, while their food stores were packed with 15,099 kilograms of tinned meat, 4,036 kilograms of preserved vegetables and 11,628 litres of concentrated soup. They also housed 4,286 kilograms of chocolate, 3,215 kilograms of tobacco, 910 litres of wine and 4,218 kilograms of lemon juice to fight scurvy. They should have had enough provisions to last seven years.

On 12 May, the ships were towed down the Thames from Woolwich to Greenhithe, Kent, where



final preparations were undertaken and gunpowder and magnetic instruments were brought aboard. The departure date was 15 May but they were delayed. On 19 May, the screw steamer HMS Rattler finally towed the ships into the North Sea.

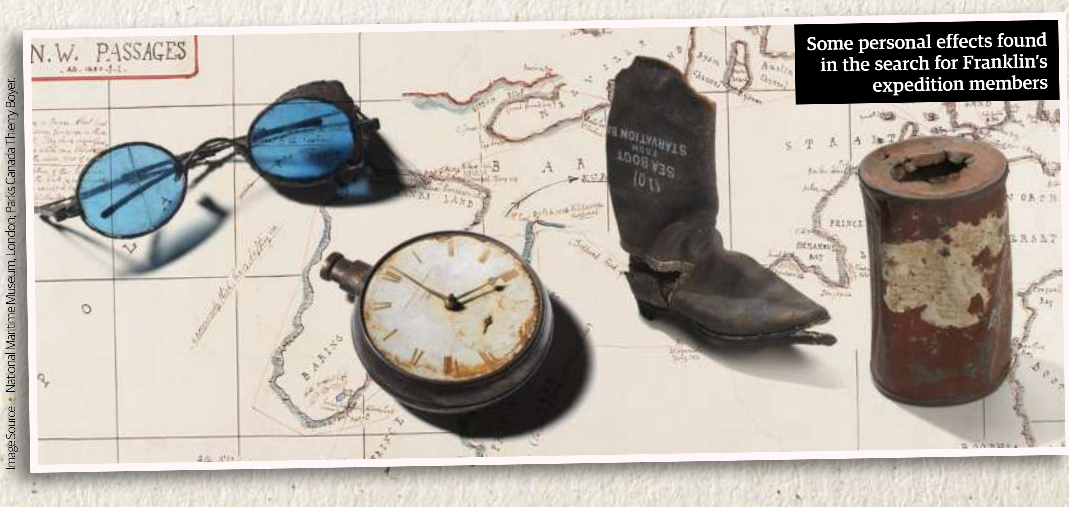
On 25 June, they crossed the Arctic Circle and arrived in the Whale Fish Islands off western Greenland five days later. Anchored in Baffin Bay, they took on even more provisions, transferred from the supply ship Barretto Junior, which put Erebus and Terror significantly overweight. Two British whalers encountered the ships, still in Baffin Bay but preparing to head east into Lancaster Sound, on 26 July. They were the last Europeans to ever see the explorers alive.

When a year passed and there was no word from Franklin, the Admiralty were initially unconcerned. They believed the lack of communication meant success as the captain had told them to only expect him back when provisions had been exhausted. By 1847, the Admiralty were sending communiqués to Hudson's Bay Company traders and whaling ships to keep an eye out for signs of the Franklin expedition. Others back home were growing concerned, but the Admiralty refused to act. In March 1848, they eventually offered 100 guineas to any whalers with news to share regarding Erebus and Terror. Franklin's wife, Jane, too, had drummed up a whopping £2,000 reward money for information.

Ross was issued orders on 9 May 1848, to find out what had become of the expedition. He would take off in HMS Enterprise for Lancaster Sound, Barrow Strait and the Wellington Channel, sea ice permitted. HMS Investigator, the other ship in the search party, would go and look for Franklin along the Boothia Peninsula and Prince Regent Inlet.

Ross' team arrived in the Whale Fish Islands and discovered that Baffin Bay was impenetrable due to sea ice and no crossing could be performed. In late August they reached Baffin Island, yet their progression was hindered further by sea ice. Ross had been exceedingly optimistic in his plans, but now he was faced with diminishing food stocks. The ships had to turn back. When Ross returned to London, he faced severe criticism from the Admiralty and Franklin's widow.

In 1850, the Admiralty offered a £20,000 reward for any private vessel that could offer "efficient assistance" to the Franklin ships. By now they knew that Erebus and Terror would be in danger or succumbed to calamity. When they kicked a host of search and rescue missions into



Some personal effects found in the search for Franklin's expedition members

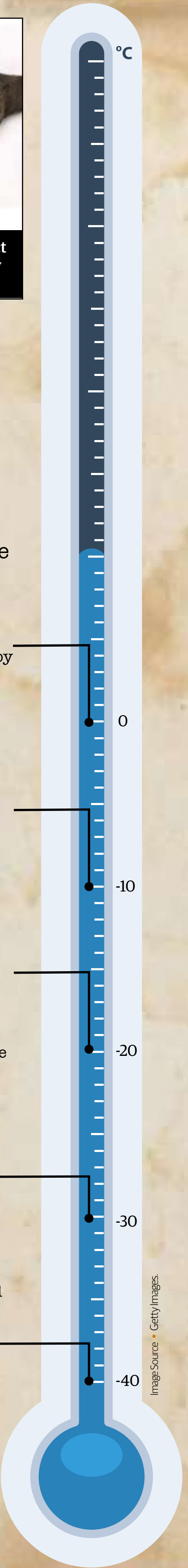
Image Source • National Maritime Museum, London; Parks Canada Thierry Boyer.

Snow goggles would help protect the face from frostbite and snow blindness

Image Source • National Maritime Museum, London; Parks Canada Thierry Boyer.

Race against death

Frostbite is a common enemy for polar explorers. As temperatures drop, the human body struggles to cope



LOW RISK

At this temperature, it'll be nippy out, but the human body can cope if insulated and no skin is exposed. There is a low risk of frostbite or hypothermia.

INCREASED RISK

Exposed skin can freeze within ten to 30 minutes. Frostbite begins with a tingling sensation, which then develops into pins and needles. This stage is known as 'frostnip' or 'superficial frostbite' because it affects top layers of skin.

VERY HIGH RISK

Start worrying. At this temperature, frostbite can develop rapidly – within five to ten minutes – and tissue damage becomes increasingly severe. Prolonged exposure to the elements is asking for trouble.

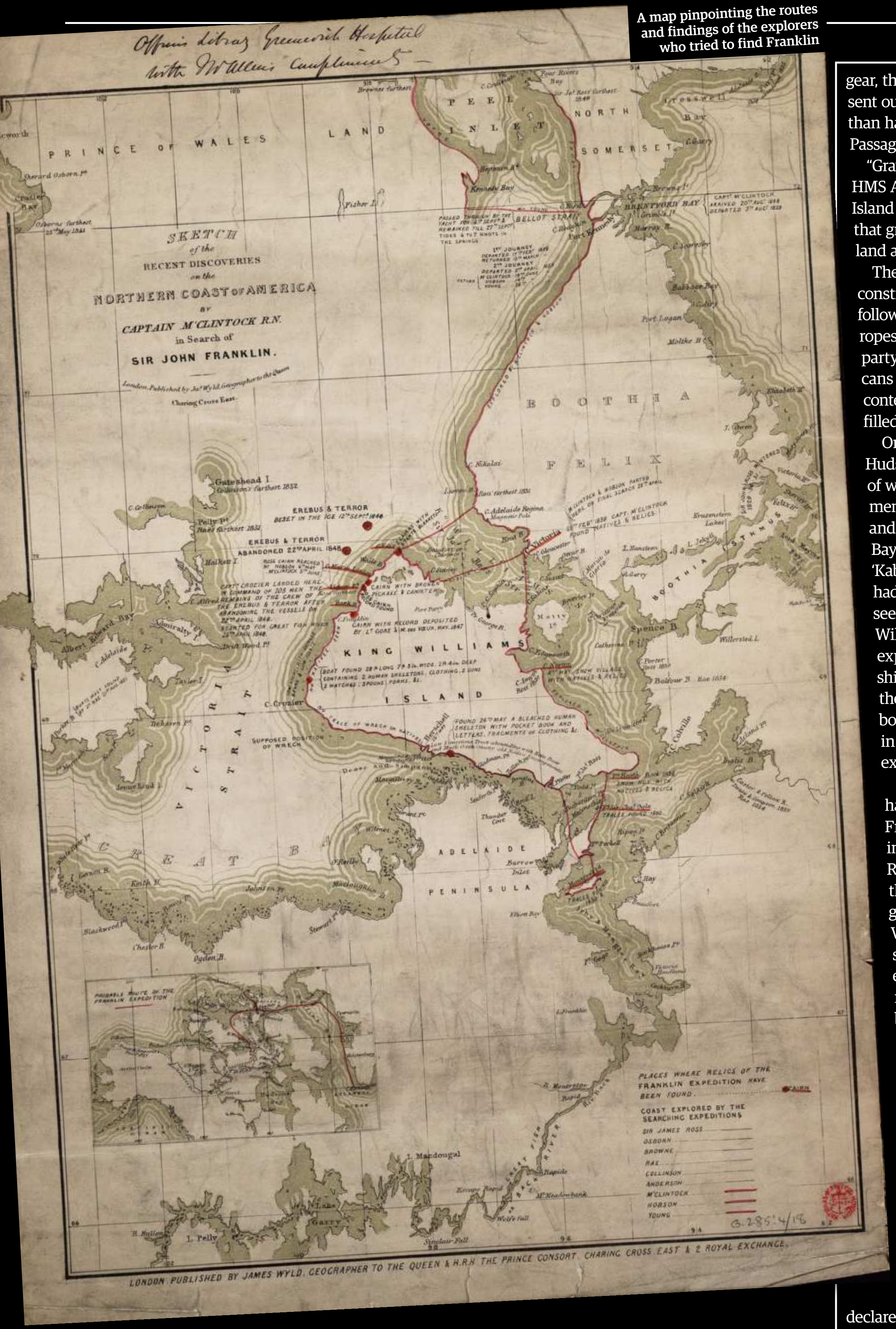
EXTREMELY HIGH RISK

Fingers, hands, noses, toes and ears are the most commonly affected body parts. Frostbite turns skin white and numb as the cold attacks skin tissue and nerves. Skin becomes white and blue as it hardens.

THE FULL WORKS

Frostbite can attack and do irreparable damage to the human body. It can develop in two minutes (wind chill can quicken the ordeal rapidly). Tissue necrosis can occur and affect tendons, muscles and bones.

Image Source • Getty Images.


Officers Library Greenwich Hospital with McClintock's compliments
SKETCH of the RECENT DISCOVERIES on the NORTHERN COAST OF AMERICA by CAPTAIN M'CLINTOCK R.N. in Search of SIR JOHN FRANKLIN.
London, Published by Jas. Wyld, Geographer to the Queen Charing Cross East.
PRINCE OF WALES LAND
PEEL INLET
NORTH SOMERSET
BELLOT STRAIT
BOOTHIA FELIX
KING WILLIAMS ISLAND
VICTORIA STRAIT
ADELAIDE PENINSULA
EREBUS & TERROR BESET IN THE ICE 12th SEPT 1846
EREBUS & TERROR ABANDONED 22nd APRIL 1848
SUPPOSED POSITION OF WRECK
C. Crozier
PROBABLE ROUTE OF THE FRANKLIN EXPEDITION
PLACES WHERE RELICS OF THE FRANKLIN EXPEDITION HAVE BEEN FOUND
CAIRN
COAST EXPLORED BY THE SEARCHING EXPEDITIONS
SIR JAMES ROSS
OSBORN
BROWNE
RAE
COLLINSON
ANDERSON
M'CLINTOCK
HOBSON
YOUNG
G.285:4/18
LONDON PUBLISHED BY JAMES WYLD, GEOGRAPHER TO THE QUEEN & H.R.H THE PRINCE CONSORT. CHARING CROSS EAST & 2 ROYAL EXCHANGE.

A map pinpointing the routes and findings of the explorers who tried to find Franklin

gear, the irony was stinging: more ships were sent out in order to find Franklin's expedition than had ever actually embarked on Northwest Passage expeditions.

"Graves, Captain Penny!" cried the messenger. HMS Advance had been searching off Beechey Island when the crewman informed his captain that graves had been discovered on a stretch of land amid the snow and slate ground.

The graves and tombstones were well constructed and proper rites had been followed. Further investigation nearby yielded ropes, cloth, wood and brass bits. The search party was baffled to discover 600 empty tin cans they found filled with pebbles. If their contents had gone bad, why were the tins filled with stones?

On 20 April 1854, Dr John Rae of the Hudson's Bay Company discovered the truth of what had happened to Franklin and his men. At Pelly Bay on the Boothia Peninsula, and much further eastwards at Repulse Bay, Rae met Inuit who said a party of 'Kabloonans' (their word for white people) had starved to death. About 40 men were seen dragging a sledge and boat on King William Sound in spring 1850 and they explained through hand signals that their ships had been crushed by ice. Later in the summer, the Inuit hunters found their bodies scattered – some in a tent, some in the boat, others where they fell from exhaustion and starvation.

To back up their story, the Inuit people had a gold cap band, silver cutlery and Franklin's Hanoverian order of Knighthood in their possession. They admitted to Rae that paper records discovered among the bodies were destroyed. The most gruesome detail was not something Victorian Britain had wished to hear – the survivors had turned to cannibalism, eating the dead to stay alive. Famed novelist Charles Dickens was so offended by the accusation passed on to the Admiralty and newspapers that he referred to the Inuit testimony as the "vague babble of savages".

In 1859, Leopold McClintock of the British Navy returned to England with a firsthand account of the crew's experience. The explorers left notes in a tin container, buried under piles of rocks, known as cairns, on King William Island for others to find – a common practice at the time. The first message, left on 28 May 1847, said the ships had wintered at Beechey Island, but declared "all well".

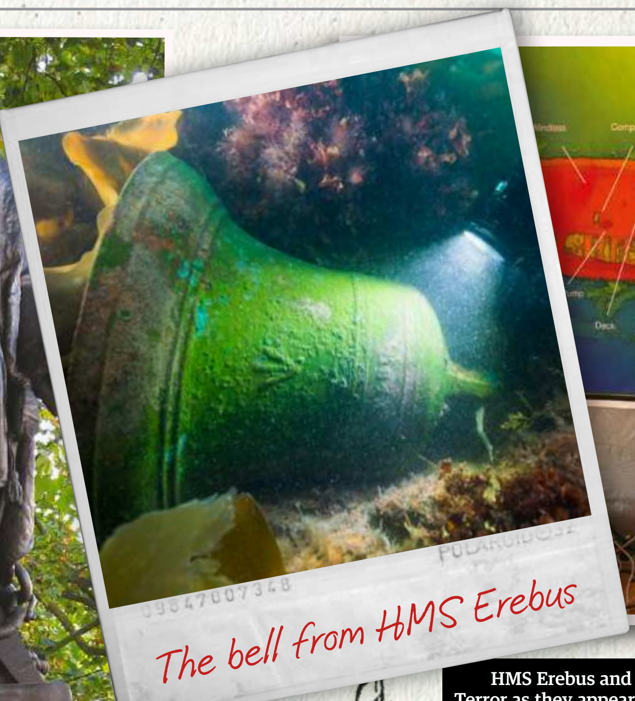
The second message, left on 25 April 1848, was less cheerful. The ships had been trapped in the ice since September 1846 and Franklin had died the following June. The note confirmed 24 other crew members had died and the

"THE EXPLORERS LEFT NOTES IN A TIN CONTAINER, BURIED UNDER PILES OF ROCKS ON KING WILLIAM ISLAND"

Image Source • National Maritime Museum, London; Parks Canada Thierry Boyer.

The John Franklin statue was erected in Waterloo Place, London, in 1866

Image Source • Public Domain; ChrisO.



The bell from HMS Erebus

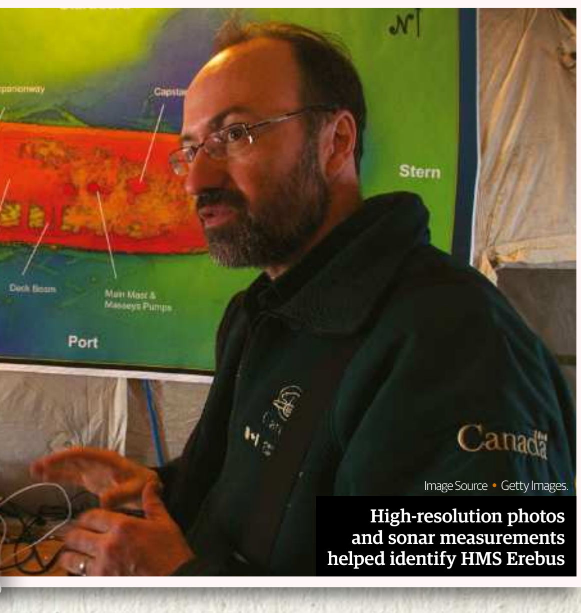
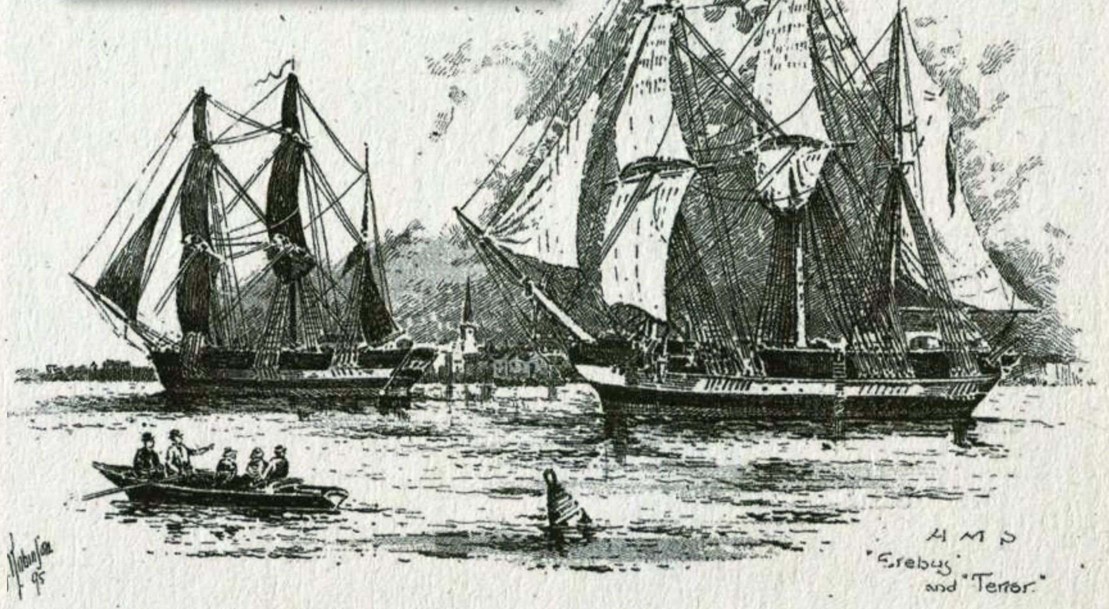


Image Source • Getty Images.

High-resolution photos and sonar measurements helped identify HMS Erebus

HMS Erebus and HMS Terror as they appeared in *Illustrated London News*


H M S "Erebus" and "Terror."
95

remaining 105 survivors had resolved to abandon Erebus and Terror and head south towards Back's Great Fish River.

What exactly happened between the crewmen's last note and when the Inuit met the survivors in 1850 is unclear. However, skeletons dotted along King William Island suggest the men did march south, resting where they fell, weak from hunger, scurvy and the extreme cold. Despite Dickens' reservations, forensic analysis showed that many of the bodies had been eaten by desperate survivors.

But what actually killed Franklin and his men before the ships were abandoned? The carefully tended graves found by HMS Advance at Beechey Island were exhumed in 1984. The bodies of John Torrington, William Braine and John Hartnell underwent a thorough autopsy, their remains remarkably preserved by the permafrost.

Torrington's body in particular suggested that he had been ill for quite some as it was so thin that his ribs were visible, while his lungs indicated that he'd recently had pneumonia. However, analysis of his hair showed signs of lead poisoning. Many believe this can be traced to the tinned food in the stores, but the ships' elaborate heating systems would have used lead pipes, which could have slowly poisoned their water supply. Perhaps the expedition was doomed from the start.

In *Frankenstein*, Robert Walton eventually decides to abandon his quest for the Northwest Passage rather than risk being destroyed by the ice. Thanks to Franklin and explorers like him, we are not ignorant: the Northwest Passage was found in 1854 and, thanks to sea ice decline, is increasingly used. However, the mystery of what exactly happened to HMS Terror and HMS Erebus endures.

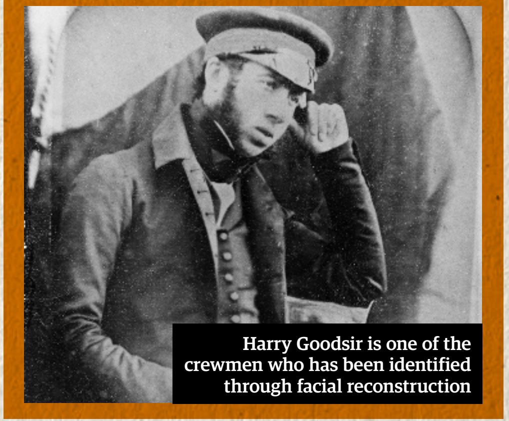
Faces From the Past

Scientists have been able to reconstruct the faces of remains found at Erebus Bay to identify crew members

Craniofacial reconstruction is where art and forensics meet. Only ever intended as an approximation of an individual, never for positive identification, forensic artist Diana Trepkov worked on several facial reconstructions using oil-based clay, frontal and lateral radiographs, skulls and a collection of bones taken from the memorial cairn on the south shore of Erebus Bay, southwest of King William Island. She described the process of craniofacial reconstruction as "75 to 80 per cent science and 20 to 25 per cent artistic ability."

The skulls, in good condition, were identified as belonging to Caucasian and European men aged 18-40. One of the jaws was missing its lower mandible, so a replacement was used. Unlike missing persons or murder victims, whose remains undergo craniofacial reconstruction, the artists working on the Franklin expedition skulls had no photos to base their work on. A few daguerreotype portraits exist, taken of 14 officers before the trip commenced.

The reconstructed face of cranium #35 resembled Lieutenant Graham Gore, who died before HMS Erebus was abandoned, so it cannot possibly be him. But the skull belonged to a man with a large nose and deep-set eyes. Cranium #80 has been potentially attributed to James Reid, ice master on Erebus, but cannot be conclusively proven. Cranium #80 was that of a man with a narrow nose, high cheekbones and a broad jaw.



Harry Goodsir is one of the crewmen who has been identified through facial reconstruction

Image Source • National Maritime Museum, London; Parks Canada Thierry Boyer.

MARITIME
MYSTERIES

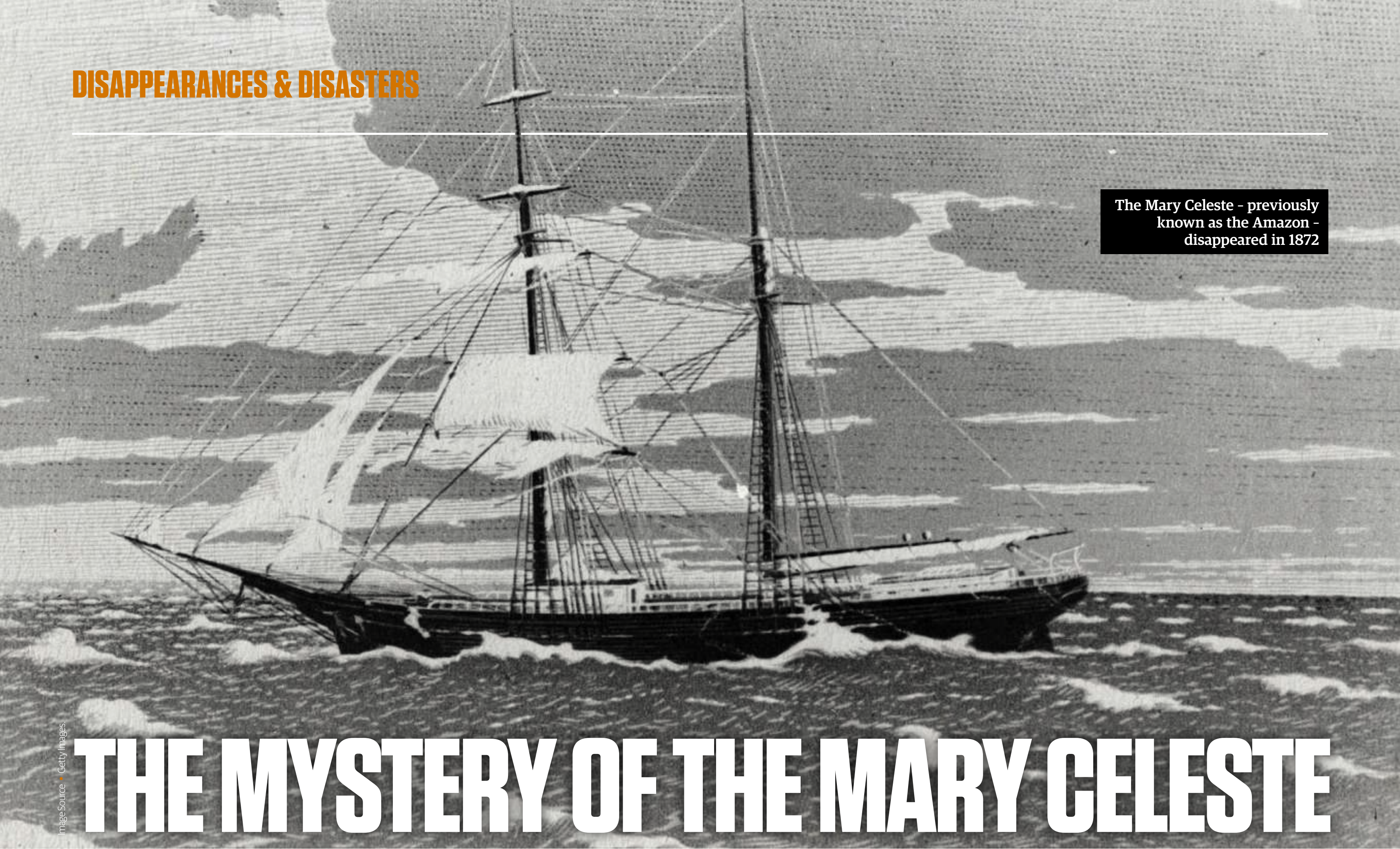
At the mercy of bad weather, rough seas, piracy and mutinies, disappearing boats and abandoned ships have littered the sea for centuries

WRITTEN BY **NELL DARBY**

When the rescuers climb onboard, they find nothing. No crew, no first mate, no captain – the ship is deserted. Food is laid out for a meal; clothing hangs up drying, ready to wear again; safety equipment and lifeboats are all in place. But there's nobody to eat the food, or to wear the clothing – and nobody has used the lifeboats. It's as though everyone has simply disappeared into thin air.

History has many tales of abandoned ships, their crews seemingly vanished without trace. These stories grab our attention, partly because the seas themselves can appear vast and forbidding, dangerous places where anything could happen. Disappearances take on an even more frightening aspect, and create a mystery that endures. From the Mary Celeste to the Kaz II, ghost ships, more than anything, show us that not everything can be easily explained.

Image Source • Getty Images



The Mary Celeste - previously known as the Amazon - disappeared in 1872

Image Source / Getty Images

THE MYSTERY OF THE MARY CELESTE

She was discovered, deserted in the Atlantic Ocean in the winter of 1872. The mystery of what happened to the Mary Celeste and her crew has fascinated us ever since...

It was about lunchtime on a December's day in 1872 when the helmsman of the Canadian brigantine Dei Gratia reported a ship, some six miles away, moving rather erratically towards them. The ship didn't look quite right: its sails weren't in the expected position, and the movement of the ship did not look planned. The Dei Gratia's captain, David Morehouse, watched from the deck, and as the unknown ship came closer, he sent signals to it, but received no response. There was nobody on the other ship's deck, and Captain Morehouse grew increasingly perturbed. He knew he should investigate this strange ship, and sent two of his crew - first mate Oliver Deveau and second mate John Wright - out in one of the Dei Gratia's small boats to reach the ship and climb aboard.

"THE LAST SHIP'S LOG ENTRY WAS FROM NINE DAYS EARLIER, AND 400 NAUTICAL MILES AWAY"

The ship's sails were damaged; some were missing. Two hatches were open, and the small lifeboat was gone. The floor of the hold was submerged, around 3.5 feet of water having made its way in. But rather more concerning was the absence of crew. There was nobody in or on the ship at all, apart from the Dei Gratia men. In the mate's cabin, however, was the ship's log, filled in daily. The last entry had been made nine days earlier, from a location 400 nautical miles from where she was now. What had happened in the space of those nine days was a mystery - and what had happened to the ten individuals on board the ship was equally unknown. The ship's name, displayed on her stern, was the Mary Celeste, and she would go on to be one of the most famous mysteries of all time.

The Mary Celeste was an American merchant brigantine - a ship with two masts - with a long history. Built in Nova Scotia in Canada, she had been registered as a British ship, the Amazon, back in 1861. Six years later she was badly damaged in a storm, and sold on as a wreck. The following year, a New York mariner, Richard Haines, bought the wreck, restored her at a huge cost, and renamed her the Mary Celeste. However, when his debts caught up with him, the ship was seized by his creditors, and sold on again, this time to a consortium of investors. One of them was Benjamin Spooner Briggs, who'd become her captain.

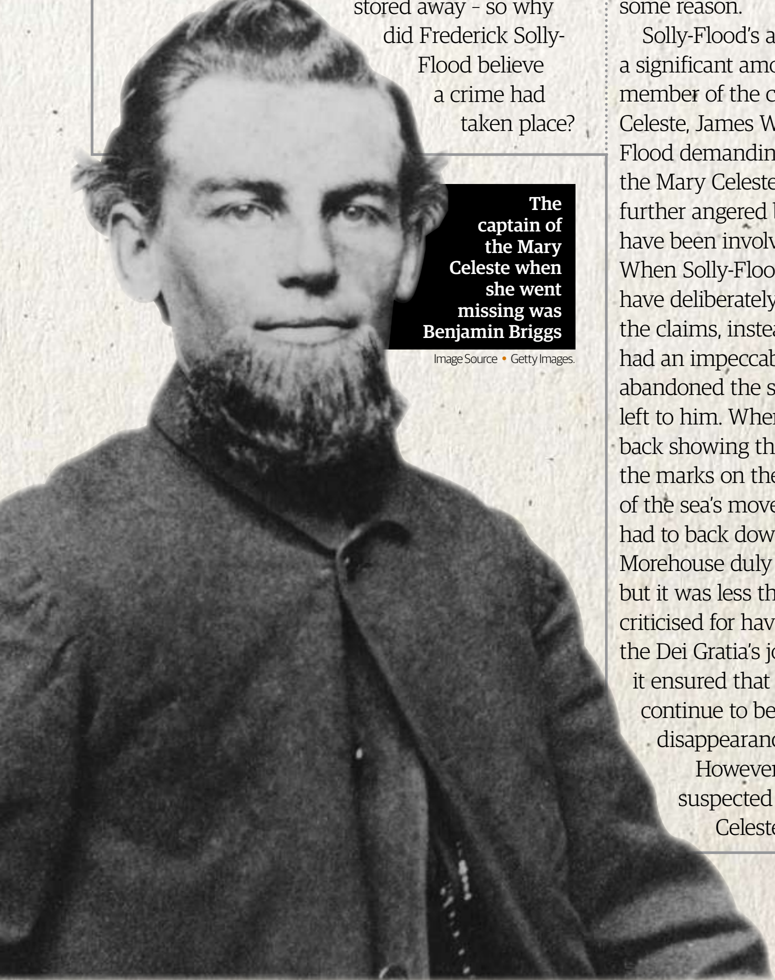
At the time of the Mary Celeste's disappearance, Benjamin Briggs was 36 years old and a father of two. From Wareham, Massachusetts, he was himself the son of a sea captain, a devout Christian who married his cousin, Sarah, in 1862. He had a good reputation, but evidently a need for challenge and for a peripatetic life. He organised the newly refurbished Mary Celeste's first trip, from New York to Genoa in Italy, choosing his crew and arranging for his seven-year-old son, Arthur, to stay with his grandmother, so as not to interrupt his schooling. Sarah and two-year-old Sophia Matilda Briggs, however, would accompany Benjamin on the voyage.

The crew was small, but consisted of respectable, experienced sailors from various countries: American Albert G Richardson as first mate; Andrew Gilling, whose family were from Denmark although he had been born in New York, as second mate; the steward and cook Edward William Head, and four Germans - Volkert Lorenzen and his brother Boz, Arian Martens and Gottlieb Goodschaad - making up the rest of the men. On 20 October, Briggs and his men arrived at New York's East River to load the ship's cargo of alcohol; on the morning of 5 November, the crew and the Briggs family were all on board the ship as it moved from the East River pier to New York Harbour, anchoring just off Staten Island to wait for better weather to move in. Finally, two days later, the ship left New York, heading into the Atlantic.

All would seem perfectly normal, until the ship was found, abandoned, nearly a month later, halfway between the Azores and the Portuguese coast.

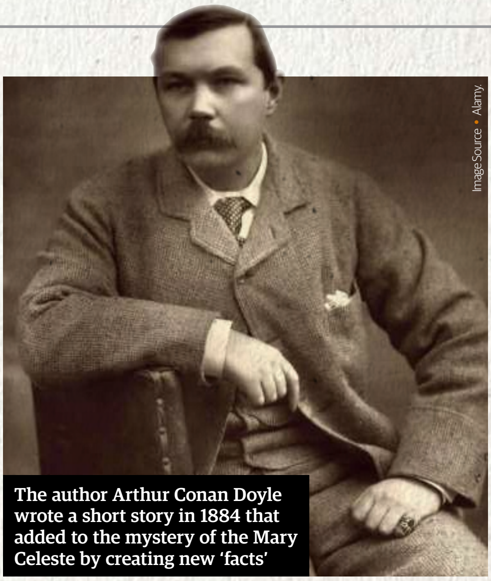
News of the Mary Celeste's abandonment soon reached the wider world, thanks to the telegram. The British press were reporting the case by 14 December, when it was recorded that the day before, 'the Mary Celeste, from New York to Genoa, with alcohol, derelict at sea' had been brought into Gibraltar by the Dei Gratia. The actions of the Dei Gratia's crew initially led to suspicions of their involvement in the Mary Celeste being deserted. They had examined the ship, and brought it into Gibraltar in the hope of receiving a salvage award. Those who brought a derelict ship in could receive a share of the ship's and its cargo's value, under maritime law, and the Dei Gratia captain David Morehouse had told his wife that he would be "well paid for the Mary Celeste". However, this was not a tale of simple greed – it was a legal and recognised activity, and Morehouse was doing nothing wrong by considering what recompense he might receive for bringing the ship in safely.

A salvage court hearing was carried out on 17 December by the chief justice of Gibraltar, Sir James Cochrane, and conducted by the island's Attorney General, Frederick Solly-Flood, who soon assumed that the ship's abandonment was the result of crime. The Dei Gratia's crew had found no signs of violence on board, there was no evidence of a natural disaster such as fire or flooding, and the signs were that those on board the Mary Celeste had left the ship in an orderly manner, using the lifeboat. There was plenty of food on board, everything was neatly stored away – so why did Frederick Solly-Flood believe a crime had taken place?



The captain of the Mary Celeste when she went missing was Benjamin Briggs

Image Source • Getty Images



The author Arthur Conan Doyle wrote a short story in 1884 that added to the mystery of the Mary Celeste by creating new 'facts'

Image Source • Alamy

A Shipping Surveyor, John Austin, had given evidence that there were 'deliberate' cuts on the bow, and possibly blood traces on the captain's sword. A further inspection by Royal Navy captains found discolouration on the ship's rails that could be blood, and a possible axe mark. Solly-Flood duly sent a report to the London Board of Trade detailing his own suspicions: that the crew had got drunk on the cargo of alcohol, murdered the Briggs family, and simulated a collision before taking off in the lifeboat. Yet he also suspected the Dei Gratia of involvement; he did not believe that the ship could have travelled very far whilst unmanned – it had been found some distance away from its last log position – and wondered whether David Morehouse or one of his men had doctored the Mary Celeste's ship's log for some reason.

Solly-Flood's allegations and suspicions caused a significant amount of bad feeling. The main member of the consortium that owned the Mary Celeste, James Winchester, was furious at Solly-Flood demanding a surety of $15,000 to release the Mary Celeste and her cargo to him; he was further angered by the suggestions that he might have been involved in the plot to murder Briggs. When Solly-Flood suggested that Briggs might have deliberately abandoned the ship, he refuted the claims, instead telling Solly-Flood that Briggs had an impeccable character and would only have abandoned the ship if there was no other choice left to him. When tests on the 'bloodstains' came back showing that they were not blood at all, and the marks on the bow were found to be a reaction of the sea's movement on timber, Solly-Flood had to back down and release the Mary Celeste. Morehouse duly received a salvage payment, but it was less than expected, and when he was criticised for having told his crew to continue the Dei Gratia's journey to deliver its own cargo, it ensured that the beleaguered captain would continue to be viewed with suspicion about the disappearance of the Mary Celeste.

However, James Winchester was also suspected of having arranged for the Mary Celeste to be abandoned as part of an insurance scam – the ship had been over-insured. Winchester, luckily, was able to get proof that he had not organised any fraud. Other theories, over the next half century or so included piracy; Briggs murdering everybody on board in a fit of religious mania; and a fraud perpetrated by Briggs and Morehouse together in order to share the salvage reward.

Yet more mundane theories also abounded, including a pump blocked by dust from the ship's previous cargo of coal; some other type of pump malfunction; a seaquake; or even an iceberg. It was not these mundane explanations that caught the public's imagination, though; it was the fact that so much was unknown, and that there had been no subsequent sign of any of those onboard the ship. No bodies had been found, but neither had anyone been found alive. The newspapers were soon debating what had happened – by early 1873, numerous stories were being published describing the case as 'a mystery of the sea', and then novelists followed, most famously Arthur Conan Doyle, who, in 1884, wrote a story about the ship. Like many of the stories that followed the disappearance of the Mary Celeste's crew and the Briggs family, Doyle's story created new 'facts' and added to the legend that the Mary Celeste soon became.

The boy who escaped the Mary Celeste's fate

When he was seven, Arthur Briggs was left behind while his parents and sister sailed off on the Mary Celeste. He never saw them again

The Briggs family had lived at Rose Cottage in Marion, Massachusetts, their lives punctuated by Benjamin Briggs' sea voyages, some of which they accompanied him on, and the loss of two Briggs children in babyhood. The 1870 census for Marion records Benjamin, Sarah and Arthur Briggs living next door but one to Benjamin's parents, and there were numerous other members of the family living locally, creating a close community.

When Benjamin embarked on this final journey – the intended voyage of the Mary Celeste to Italy – it was decided to leave the young Arthur Stanley Briggs with his grandmother. This way, his school education would not be interrupted by a long journey across the Atlantic.

His family departed New York in November 1872, with Arthur having already said goodbye to them in Massachusetts. He would never see his mother, father or little sister again. After the Mary Celeste was taken to Gibraltar by the crew of the Dei Gratia, and it became clear that the Briggs family were missing, Arthur was cared for by his paternal uncle, James Briggs, before being taken into the guardianship of his maternal uncle, clergyman William Cobb. In 1891, he married Margaret Holmes and became a father himself. He didn't follow his father and grandfather by becoming a sea captain; instead, he became a book-keeper at a coal office. He died in his home county of Massachusetts on 31st October 1931, having never found out what happened to the rest of his family.

THE AUSTRALIAN GHOST YACHT

When the catamaran Kaz II went missing in 2007, it was compared to the Mary Celeste

Kaz II was a catamaran that was found drifting off the Australian coast on 20 April 2007. It had left Airlie Beach, in the north-east of the country, five days earlier, aiming to head first to Townsville, Queensland, before voyaging around the north to Western Australia.

Three days after it set off, a helicopter reported seeing a vessel adrift near the Great Barrier Reef, adding that it was concerned that the crew was in distress. On 20 April, maritime authorities found the boat and boarded it, finding it empty.

Inside, it looked perfectly normal, as if the crew had just stepped out for a minute. Food was set out on the table ready to eat, a laptop was open and turned on, and the engine was running. The anchor was up, indicating that the catamaran had not intended to stop. Everything was in full working order, and there was no evidence of an emergency. All the lifejackets were on the boat; the only odd thing was that one of the sails was damaged.

In short, the only thing missing was the crew. This was a three-person crew, all of whom were from Perth - Derek Batten, the youngest member at 56, Peter Tunstead and James Tunstead, Peter's younger brother. Although a subsequent report ruled out foul play and suggested that one man had fallen overboard, and an attempt to rescue him had led to the other two also falling - none were good swimmers - rumours continue to this day about their disappearances.

> “IT LOOKED AS IF THE CREW HAD JUST STEPPED OUT FOR A MINUTE”

The Kaz II, with three men on board, left Airlie Beach, Queensland on 15 April 2007. Three days later, it was spotted adrift

Image Source • Damien Dempsey, CC BY-SA 3.0

CREWED BY CANNIBAL RATS

Could a ghost ship have been travelling round the British coast, manned by a crew of fierce cannibal rats?

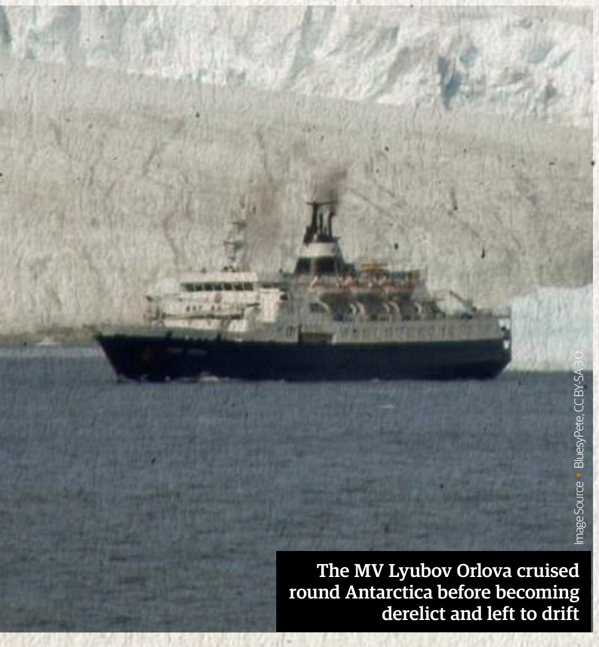


Image Source • BlueyPete, CC BY-SA 3.0

The MV Lyubov Orlova cruised round Antarctica before becoming derelict and left to drift

She was an Antarctic cruise ship named after a Russian film star, but, after she became derelict, scaremongering stories abounded about her ‘crew of cannibal rats’.

In 2006, the MV Lyubov Orlova was run aground in Antarctica, and, abandoned by her unpaid crew, was eventually impounded in Canada nearly four years later due to debts owed to an expedition company. In 2012, it was decided to tow her to the Caribbean where she would be scrapped. However, a day after leaving, the line connecting her to a tugboat broke and could not be reconnected. The cruise ship started drifting.

In January 2013, she was again connected to another boat, but once in international waters, and away from offshore oil and gas operations, the Lyubov Orlova was cut loose. In February 2013 the ship was seen 1,300 nautical miles off the Irish coast, and there were various sightings around Ireland and Iceland before satellites picked up a shape that could be the Lyubov Orlova off the Scottish coast.

Rumours started that the ship was, by now, colonised by cannibal rats - for there was nothing on board they could eat apart from each other. Fears abounded that if the ship hit land, she could unleash the crew of rats into the British Isles, and reports were hurriedly put out to reassure people that the cruise ship was actually probably at the bottom of the sea.

THE DIAMOND SHOALS MYSTERY

The loss of the Carroll A Deering crew nearly a century ago has proved to be one of the most enduring nautical mysteries

In 1921, a schooner was found run aground off the coast of North Carolina in the United States, apparently a victim of the area's notorious Diamond Shoals. The Diamond Shoals sandbars are considered one of the most dangerous parts of the Atlantic seaboard, and a lighthouse has long existed at the site to warn ships of the dangers there.

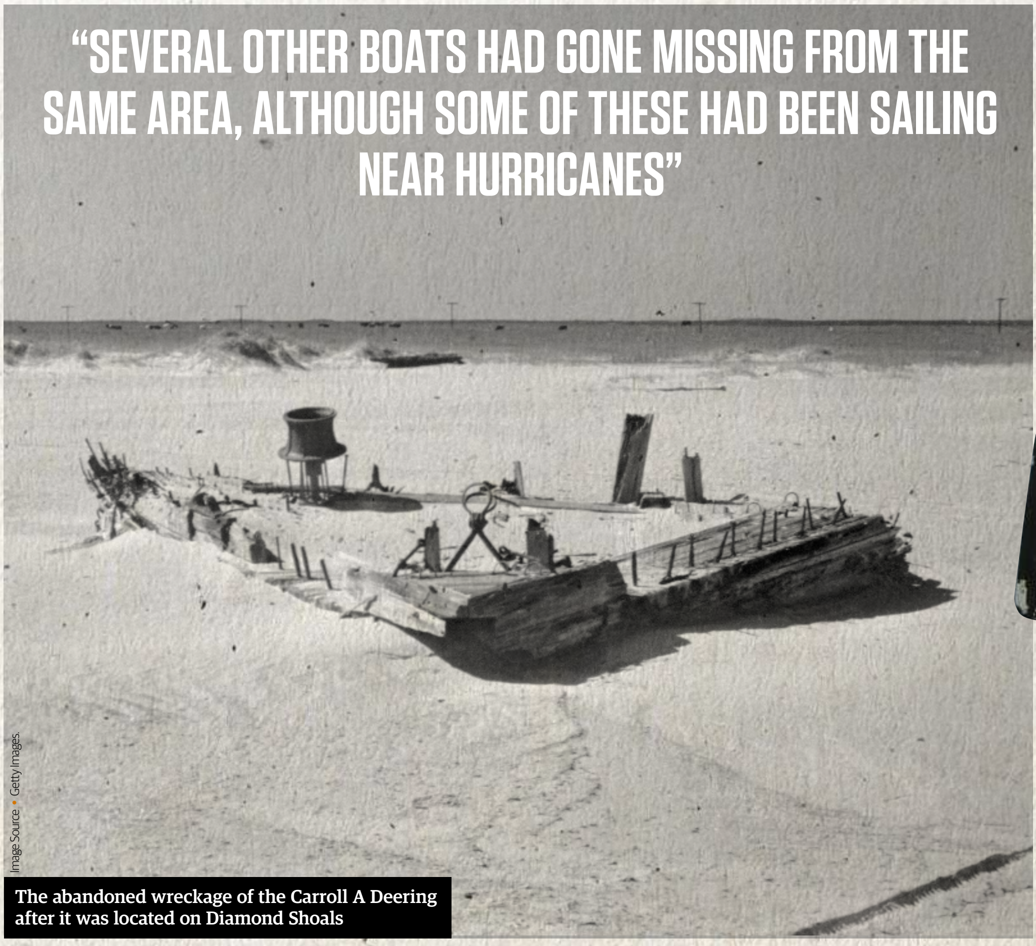
In this sense, then, it was not a unique occurrence to find a ship aground here. What *was* unusual in the case of the Carroll A Deering, however, was that when rescue ships were able to reach the stricken schooner after the recent bad weather improved, it was discovered that the boat had been abandoned. Not only was the crew missing, but so too were other items: the ship's log, navigation equipment, the crew's personal belongings, and two lifeboats. Yet the gallery contained clear evidence that a meal was being prepared at the time the ship was abandoned.

The Carroll A Deering had been en route from Puerto Rico to Rio de Janeiro, originally captained by William Merritt, who employed his son Sewall as first mate. They had a nine-man crew. At the end of August 1920, Captain Merritt became very ill, and the boat had to return to shore, where both Merritt and his son left the boat. Willis Wormell, 66, was brought out of retirement to become the new captain, and Charles McLellan was drafted in as first mate. In September, the Deering reached Rio safely, and the crew were given leave. In December, the Deering set off again, and was spotted off the North Carolina coast on 28 January. Three days later, it was found aground.

It was later found that several other boats had gone missing from the same area; although some of these had been sailing near hurricanes, which would explain their disappearances, this appeared to not be the case with the Deering. The official investigation closed in 1922, with no official finding reached. However, mutiny has been considered a likely theory, with there being known discontent towards the captain, particularly from his first mate, Charles McLellan. Willis Wormell tended to interfere when his first mate tried to discipline the rest of the crew, he couldn't see well enough to navigate, and, at Rio, he had talked to a friend 'with disdain' of the Deering's crew.

As likely as this theory might be, though, other theories as to what happened have abounded, including piracy, a Communist plot, and the involvement of rum smugglers during the Prohibition era. Since the 1930s, the case has also become associated with stories of paranormal activity in the Bermuda Triangle, because the schooner frequently sailed in the area... but the Bermuda Triangle is hundreds of miles away from where the Deering was run aground. The reality may be more mundane - the boat may have run aground in a notoriously dangerous area, and the crew lost trying to get to shore in their small lifeboats - but in the absence of any bodies, the mystery remains.

> "SEVERAL OTHER BOATS HAD GONE MISSING FROM THE SAME AREA, ALTHOUGH SOME OF THESE HAD BEEN SAILING NEAR HURRICANES"



The abandoned wreckage of the Carroll A Deering after it was located on Diamond Shoals

Image Source • Getty Images.

The Diamond Shoals off the US coast at North Carolina have become known as the 'graveyard of the Atlantic' because of the number of ships lost here

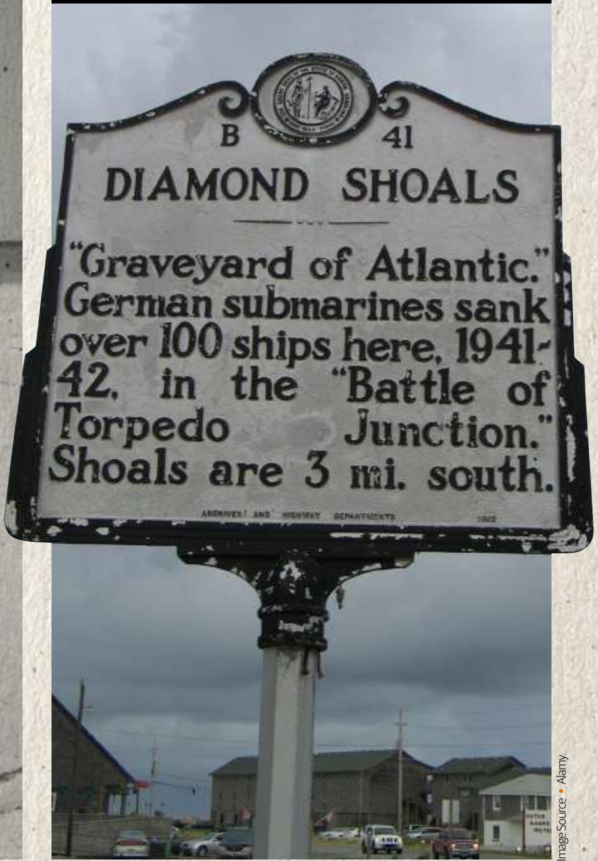

B 41
DIAMOND SHOALS
"Graveyard of Atlantic."
German submarines sank over 100 ships here, 1941-42, in the "Battle of Torpedo Junction."
Shoals are 3 mi. south.
ARCHIVES AND HIGHWAY DEPARTMENTS

Image Source • Alamy.

The Hindenburg disaster was the first major air crash caught on both still and moving picture cameras

THE HINDENBURG DISASTER

What caused the fiery final flight of the world's most famous airship?

WRITTEN BY **SCOTT REEVES**

In the early evening of 6 May 1937, 31-year-old reporter Herbert Morrison and engineer Charlie Nehlsen took their places at Naval Air Station Lakehurst in New Jersey. They had been sent by WLS, a Chicago radio station, to record the arrival of the vast German passenger airship LZ 129, better known as the Hindenburg.

Morrison's recording started routinely, describing his own flight from Chicago and the Hindenburg's 12-hour delay due to poor weather. However, just as Morrison noted that light rain was starting to fall, the calm pitch of his voice suddenly changed as the landing was turned into tragedy in front of his eyes: "It's burst into flames! Get this, Charlie; get this, Charlie! It's fire and it's crashing! It's crashing terrible! Oh, my! Get out of the way, please! It's burning and bursting into flames and the… and it's falling on the mooring mast. And all the folks agree that this is terrible; this is the worst of the worst catastrophes in the world."

Morrison and Nehlsen had been joined by four newsreel cameramen to record the Hindenburg's first landing in the USA for the 1937 flying season. Although airship flights were becoming an almost routine occurrence – the Hindenburg alone made 34 transatlantic flights in 1936 – the sight of huge cigar-shaped dirigibles still brought traffic to a standstill wherever they flew. When the Hindenburg flew over Manhattan on the afternoon it crashed, New Yorkers ran out of their homes and offices to watch it fly overhead, unaware they were watching the airship's final, fateful voyage. The public was entranced by the new cruise ships of the sky.

The first rigid airship had flown only 37 years previously when Ferdinand von Zeppelin successfully tested the LZ1. Over the next four decades, the company he founded would continue to develop lighter-than-air transport for both military and civilian uses. The Hindenburg was the flagship of the Zeppelin fleet when it launched in March 1936, capable of carrying up to 70 passengers in opulent comfort – it even included a pressurised smoking room – at a top speed of 135 kilometres (84 miles) per hour.

The Hindenburg was half full as it drifted towards the mooring mast at Lakehurst, with only 36 passengers having booked a transatlantic ticket from Frankfurt. However, there was a full quota of crew – 61, including 21 trainees – ready to work on the fully booked return flight, on which many passengers were travelling to Europe to attend the upcoming coronation of King George VI.

Since the airship had arrived half a day late, it was decided that it would attempt a riskier flying moor or high landing, where the airship dropped landing ropes to the ground crew who tethered them to the mooring mast and winched the Hindenburg down to the ground. The American groundsmen were familiar with the manoeuvre, but the Hindenburg's crew had only carried it out a few times.

The Americans were not ready on the first approach, so the Hindenburg made a sharp turn and tried a second approach. As the wind direction changed, the Hindenburg was forced to make a second sharp turn while jettisoning gas to lose altitude. Although the captain had to order water ballast be released in order to prevent the bow rising too high and the final approach turned into an untidy S-shape, the landing ropes were dropped from a height of 90 metres (295 feet), and the Hindenburg was attached to the mast. It appeared that a difficult landing in tricky conditions had been achieved.

Within a couple of minutes of the ropes being dropped, however, the disaster began to unfold. A fire broke out – eyewitnesses disagree as to exactly where it began – and the flames quickly engulfed the airship as they leapt from one gas cell to the next. The rear of the Hindenburg sank to the ground but, since gas remained in the bow for a few seconds longer, the airship briefly pointed upwards until the outer skin burned away and the front end also crashed into soil. From the first appearance of the fire, it took just over 30 seconds for the entire airship to hit the ground. As Herbert Morrison's emotive recording showed, there was barely time to react to the unfolding disaster before the airship was on the ground.

Image Source • Alamy

"THE AIRSHIP HAD ARRIVED LATE [SO] IT WAS DECIDED THAT IT WOULD ATTEMPT A RISKIER FLYING MOOR OR HIGH LANDING"

Despite the ferocity of the fire, 62 of the 97 people on board survived, although many were permanently disfigured by burns. The crew in the stern were luckiest, able to run to safety when the airship first hit the ground; the crew in the control car in the bow remained in the air for crucial extra seconds and most succumbed to the flames. Passengers on the starboard side were trapped as the airship rolled slightly after it hit the ground, while those on the port side had an easier route to safety. One ground crew worker was also killed by the falling wreckage.

The investigations into the loss of the world's most famous aircraft quickly took on a political and diplomatic dimension. The Hindenburg was a symbol of Germany's Nazi regime, emblazoned with swastikas on the tail. The airship's first flight had been undertaken at the behest of the Air Ministry to fly across Germany and drop propaganda leaflets ahead of Reich elections. As a valuable tool of the regime, the thought that the airship might have been brought down as the result of a design flaw or mistakes by her crew was unthinkable. Max Pruss, the captain in command of the Hindenburg, maintained that sabotage was the most likely cause of the disaster, as did Charles Rosendahl, the commander of Naval Air Station Lakehurst, although both men would have been keen to exonerate themselves from blame.

Suspicion quickly fell upon the airship's most famous passenger, Joseph Spah, a renowned acrobat and vaudeville performer. Spah had brought a dog on board and, it was claimed, his trips to the freight area to feed the dog gave him an opportunity to damage the ship. Several survivors remembered that Spah seemed particularly agitated as the landing approached and noted that his agility meant that he could climb into the rigging to plant a bomb. Later investigations pointed the finger at a crew member, Erich Spehl, a rigger who worked close to where the fire may have begun and whose girlfriend had communist, anti-Nazi sympathies. Conveniently, Spehl died in the crash and had no close family to defend him.

However, only circumstantial evidence was ever presented in the cases against Spah and Spehl. Even Hugo Eckener, a former manager of Zeppelin and experienced airship captain, came to abandon the sabotage theory and accept that a mechanical or design flaw was more likely. Zeppelin engineers conducted extensive tests to discover whether their airships were flawed in some way. One possibility, based on eyewitness testimony of flames coming from one of the engines, was that an engine failure ignited the hydrogen keeping the airship afloat. However, the company's experiments could not re-create such circumstances - the sparks that came from an engine explosion were less than half the temperature required to ignite hydrogen gas.

A far hotter source of ignition was lightning, although the Hindenburg and other airships had survived many prior lightning strikes, and there were no thunderstorms at Lakehurst as the Hindenburg made its approach. Lightning is, however, a naturally occurring electrostatic discharge. What if the Hindenburg was struck by an artificial static spark? The Hindenburg had flown through a storm front in an attempt to make up for lost time on the journey, and the mooring ropes, which connected the airship to the ground, will have inevitably become wet when drizzle started to fall. If static electricity built up in the outer skin of the airship, it may have jumped the short distance to the metal frame and ignited the hydrogen, or perhaps there was a leak of hydrogen from a rip in the airship's skin caused by the sharp turns on the landing approach.

The static spark theory was backed up by witness statements who spotted the eerie, luminescent glow of St Elmo's fire flickering along the airship in the seconds before the fire broke out. So convincing was the evidence that a German board of inquiry into the disaster conducted laboratory tests using sections of airship skin. Their

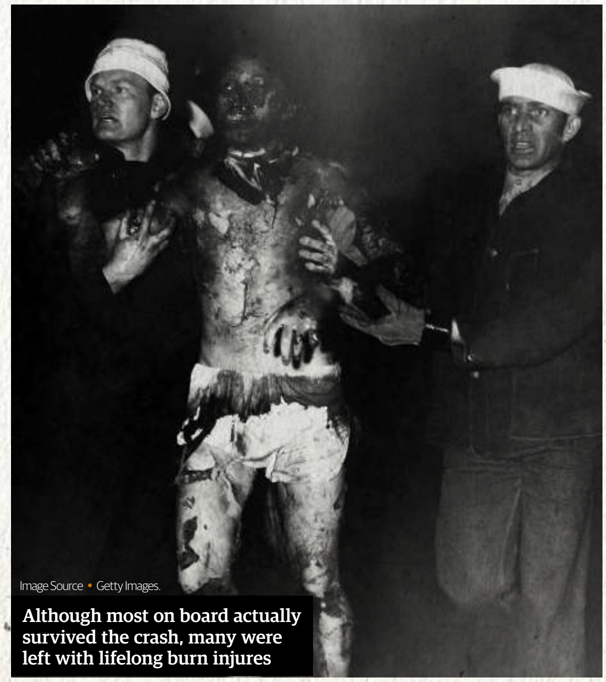


Image Source • Getty Images.

Although most on board actually survived the crash, many were left with lifelong burn injures

"THE HINDENBURG WAS A SYMBOL OF GERMANY'S NAZI REGIME, EMBLAZONED WITH SWASTIKAS ON THE TAIL"

Image Source • Getty Images.

The Hindenburg circled Manhattan prior to its failed landing, bringing New Yorkers out onto the streets

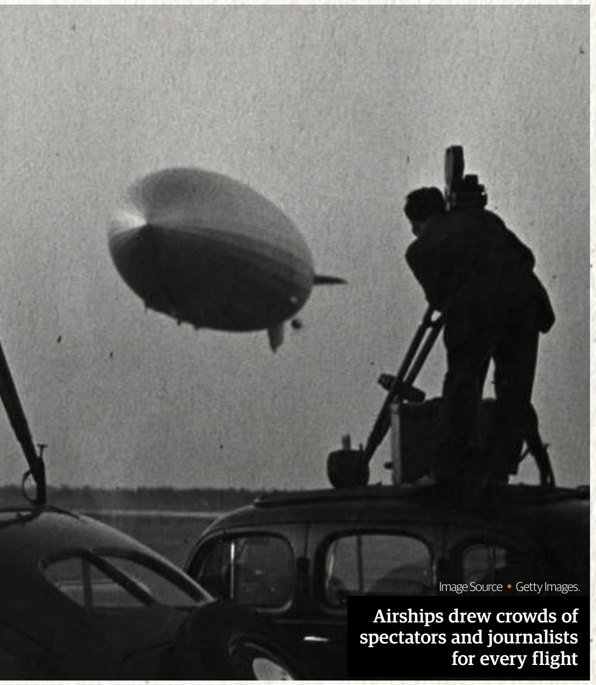


Image Source • Getty Images.

Airships drew crowds of spectators and journalists for every flight

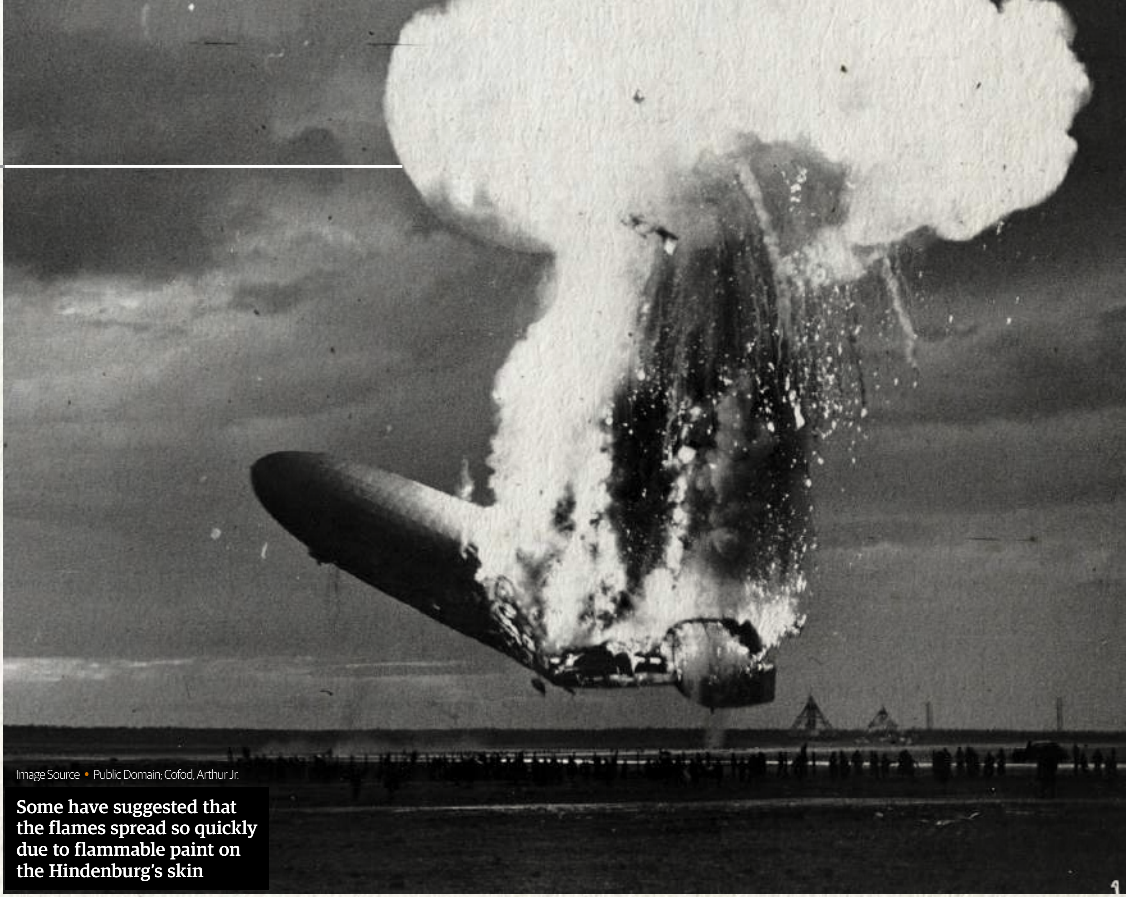


Image Source • Public Domain; Cofod, Arthur Jr.

Some have suggested that the flames spread so quickly due to flammable paint on the Hindenburg's skin

conclusion? It was possible to create a spark of static electricity that would ignite hydrogen.

Yet the results of the German inquiry were never made public. To do so would admit that one of the flagships of the Third Reich was flawed, an embarrassment that the Nazi regime was not prepared to countenance. Instead, the Hindenburg disaster was left shrouded in mystery. The mighty airship flew into a perfect storm: running late, in poor weather, with a risky method of landing, in an airship with design flaws that made it susceptible to ignition in such circumstances. But exactly what caused the airship to fall from the sky, a burning tomb for 35 unlucky souls, will probably never be known.

Image Source • Getty Images.

The Hindenburg didn't just offer passengers speed, it also boasted cruise-ship-style comfort

The final flight

From captain to cabin boy, who were the lucky survivors and unlucky victims of the Hindenburg?

MAX PRUSS

A former wartime Zeppelin operative, by 1936 Max Pruss was a captain commanding the Hindenburg. His first time commanding a trip to Lakehurst, Pruss was one of the few survivors from the control car in the bow. He carried one crew member to safety and had to be restrained from returning to the flames to look for others.

Image Source • Getty Images.

Pruss suffered extensive facial burns and was given the last rites, but survived and eventually died in 1960

JOSEPH SPAH

Renowned acrobat, Spah was booked for a month-long series of performances in New York but missed the liner he was supposed to cross the Atlantic in and boarded the Hindenburg instead. Spah survived the crash by hanging from a window in the dining room and jumping to safety as the airship approached the ground.

Image Source • Alamy.

In later life, Spah adopted the stage name Ben Dova and appeared in the 1976 film *Marathon Man*

ERNST LEHMANN

Although he was technically the highest-ranking officer and a previous commander of the Hindenburg, Captain Lehmann was aboard purely as an observer. Known to take risks, there are suggestions he pressured Captain Pruss to attempt a difficult landing. Lehmann was pulled from the wreckage and died the next day in hospital.

Image Source • Bundesarchiv, Bild 102-08046 / CC-BY-SA 3.0

Lehmann was hoping to speak to American engineers about using non-flammable helium rather than hydrogen in Zeppelin airships

WERNER FRANZ

Only 14 years old at the time of the disaster, Werner Franz was employed as a cabin boy by Zeppelin. He was in the officers' mess when the fire broke out and was saved when a ballast tank ruptured, soaking him with water. In later life he became an ice skating coach, and died in 2014 as the last known surviving crew member of the Hindenburg.

Image Source • Public Domain; Associated Press.

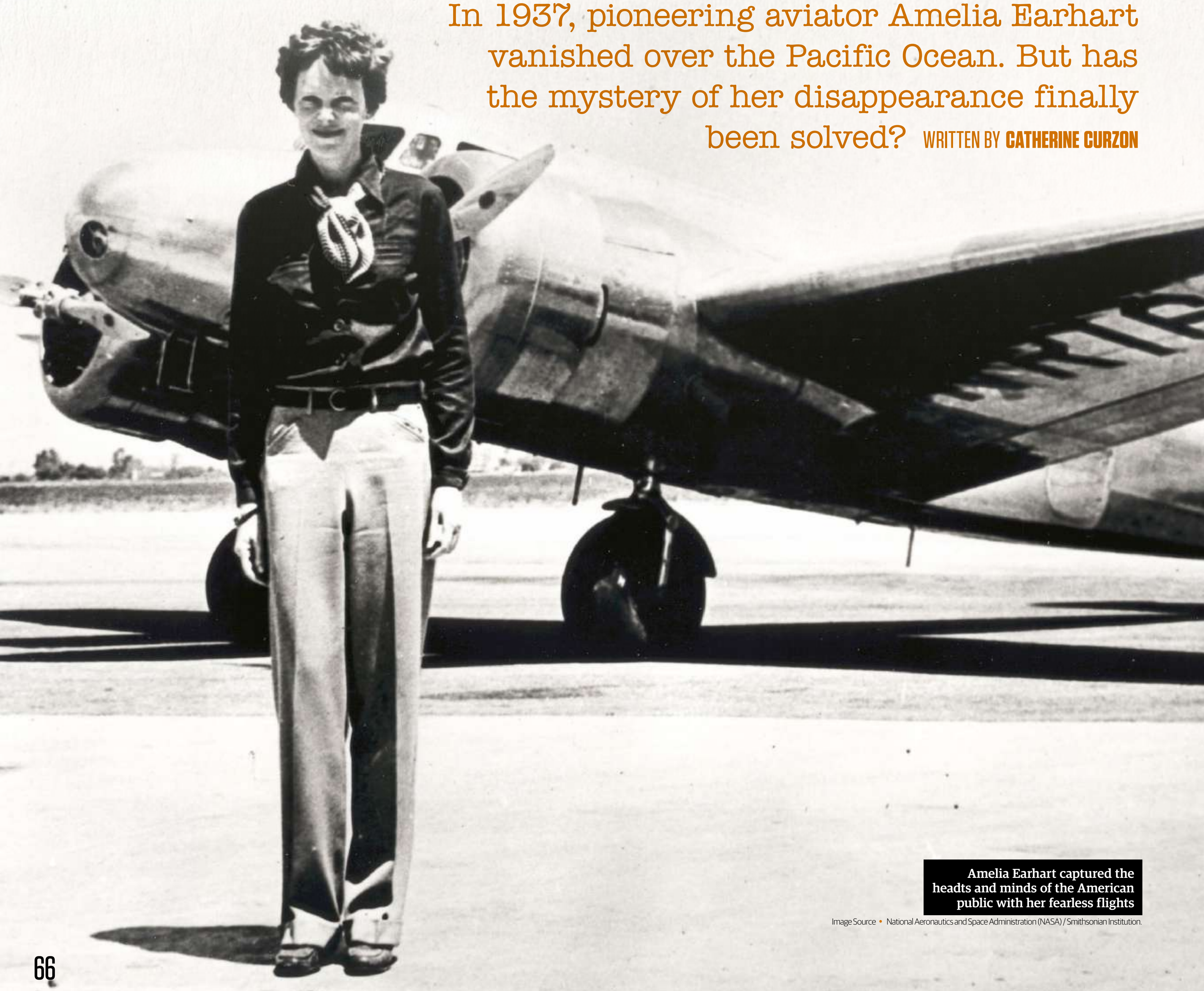
Franz was prevented from viewing the landing in the bow because he had not finished his duties – a fact that probably saved his life

Images © Getty Images. Alamy. Wikimedia Commons; Public Domain. Creative Commons; Bundesarchiv, Bild 102-08046 / CC-BY-SA 3.0.

THE LAST DAYS OF AMELIA EARHART

In 1937, pioneering aviator Amelia Earhart vanished over the Pacific Ocean. But has the mystery of her disappearance finally been solved?

WRITTEN BY **CATHERINE CURZON**



Amelia Earhart captured the headts and minds of the American public with her fearless flights

Image Source • National Aeronautics and Space Administration (NASA) / Smithsonian Institution.

> “HER PLACE IN HISTORY WAS SEALED BY THIS REMARKABLE FLIGHT; IT SEEMED AS THOUGH NOTHING WAS OUT OF EARHART’S REACH”

Aerial view of the TIGHAR work site on Nikumaroro (also known as Gardner Island)

Image Source • TIGHAR photos.

Amelia Earhart made history. The first female to fly solo across the Atlantic Ocean, the holder of multiple other records and a celebrated author, she is at the centre of one of the most enduring mysteries of the 21st century.

On 2 July 1937, as she crossed the Pacific Ocean with navigator Fred Noonan, Amelia Earhart disappeared. She was at the controls of a Lockheed Model 10 Electra and intended to make history by becoming the first woman to fly the longest route around the globe, but it was a feat she was destined never to complete. Instead of becoming lauded for the monumental journey, her fame has endured for a far darker reason. What happened to Earhart has been the subject of ongoing investigations, debate and theory, but one organisation believe they have finally solved this mystery.

Born in Kansas in 1897, Amelia Earhart was raised to believe that anything was possible. Far from being moulded into the perfect ladylike little girl, she was encouraged to express herself and glory in her tomboyish nature. Drawn to excitement and the thrill of danger, at just seven years old she built her own roller coaster and, constructing a ramp on the Earhart tool shed, sat in a wooden box and launched herself into space. She crashed down to earth with a few bruises, flushed with excitement and ready to go back for more. As the years passed, Earhart began to develop an interest in aviation, nurtured during visits to air shows and airfields at which pilots undertook daring stunts and demonstrations. Her first flight took place in 1920, when she took a short ride as a passenger at a local airfield and from that day, her mind was made up. She took every job she was offered, squirrelling away every cent she earned to pay for flying lessons that would change her life and make her name.

Her determination and hard work was rewarded quickly and Earhart proudly brought her first plane in 1921, naming it The Canary. Just a year later, she set her first world record when she piloted The Canary to a height of 4,270 metres, the highest any female pilot had flown.

A cavalcade of achievements and honours followed and Earhart became famous across the world for her escapades, eventually crossing the Atlantic Ocean in 1928. The first woman to make the trip, it wasn’t quite enough for the adventurous Amelia. Four years later, she undertook the journey again and this time, she was alone. Her place in history was sealed by this remarkable flight; it

Image Source • Getty Images.

Amelia Earhart and Fred Noonan look at a map of their last flight together

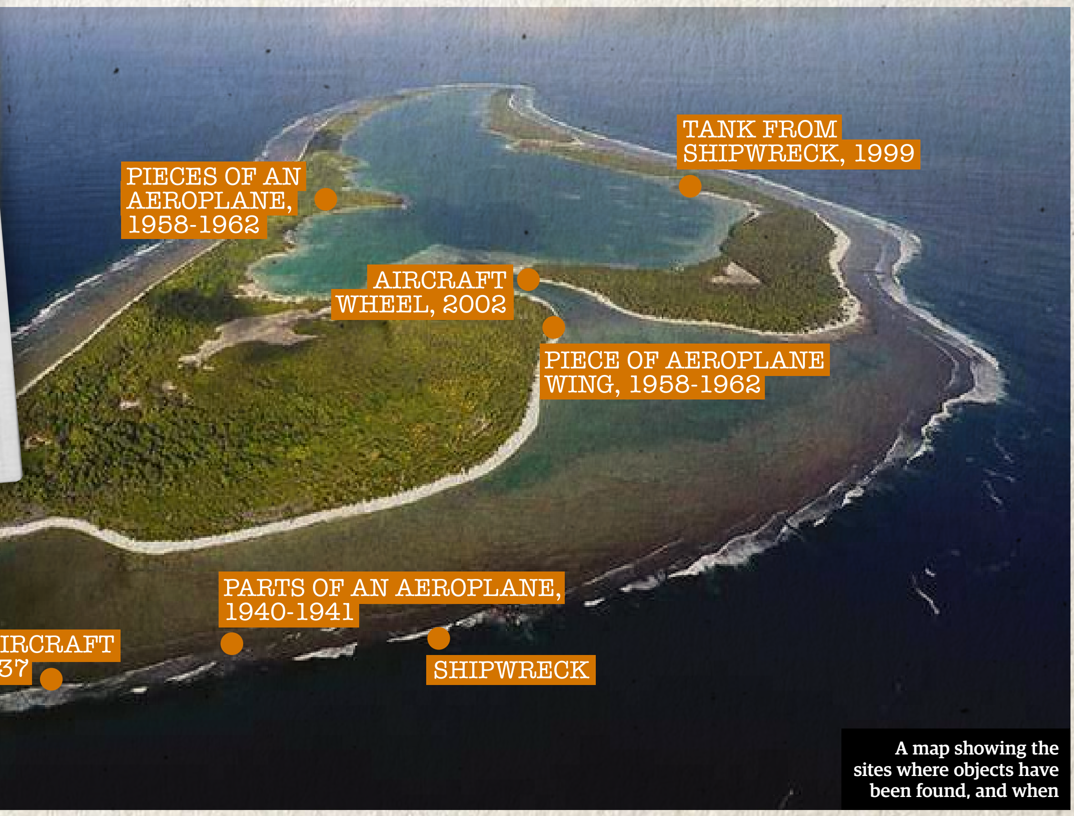

TANK FROM SHIPWRECK, 1999
PIECES OF AN AEROPLANE, 1958-1962
AIRCRAFT WHEEL, 2002
PIECE OF AEROPLANE WING, 1958-1962
PARTS OF AN AEROPLANE, 1940-1941
PRESUMED AIRCRAFT BREAKUP, 1937
SHIPWRECK
A map showing the sites where objects have been found, and when

Image Source • TIGHAR photos.

> “HERE, THEY BELIEVE, SHE AND NOONAN CONTINUED TO SEND OUT DISTRESS CALLS, WHICH WENT UNANSWERED. OPERATORS HEARD FAINT DISTRESS CALLS THAT WERE DISMISSED AS HOAXES”

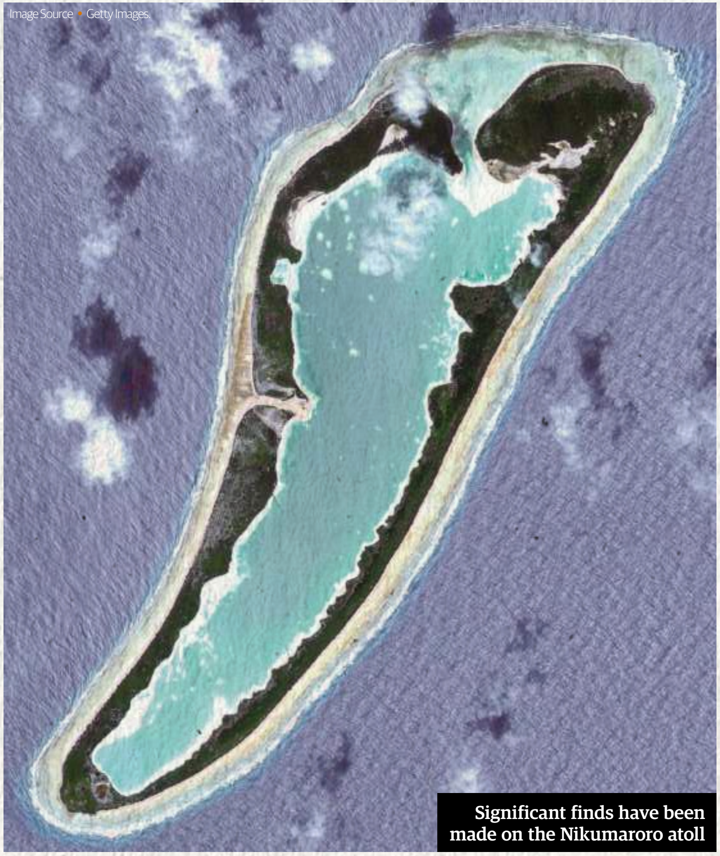


Image Source • Getty Images

Significant finds have been made on the Nikumaroro atoll

seemed as though nothing was out of Amelia Earhart's reach.

Earhart was determined to fly around the world and, in 1937, she took to the skies intending to do just that. Her first attempt was hampered by mechanical failure but, undaunted, she set off on her second attempt on 1 June 1937, accompanied by navigator Fred Noonan. Although Earhart wasn't familiar with her new navigational system and Noonan had complained of technical problems, at first all seemed well, but it wasn't to stay that way.

After a series of communication problems, the pair made their last known contact with radio operators just before 8am on the morning of 2 July. Their last definite position was recorded as somewhere in the vicinity of the Nukumanu Islands and from there, they were due to land at Howland Island. This stage of the flight was beset with problems as the radio operators, who were charged with guiding the plane down, realised that they had lost radio contact and couldn't communicate with the Electra.

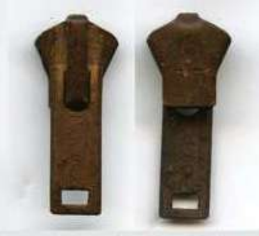
Helplessly, they listened as Earhart reported that she couldn't see the land due to clouds and that her fuel was low. When efforts to communicate by Morse code failed to help Earhart get her bearings, the radio operators

Finds on Nikumaroro

TIGHAR expeditions have uncovered evidence of an American woman inhabiting Nikumaroro; here are some of the finds

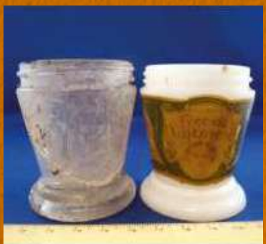
THE ZIPPER

Discovered in 2007 at the Seven Site – a forgotten, remote corner of the island – a brass zipper pull bearing the name Talon offered the tantalising possibility that it might once have been attached to Earhart's flight suit. Investigations have proved that the zipper was manufactured between 1933 and 1937, so how did it come to be on a supposedly uninhabited island? This heavy-duty fastener would have been perfect for the sort of flight wear favoured by Noonan.



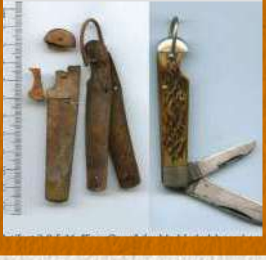
FRECKLE OINTMENT

The remains of a glass ointment pot were found in 2010 at a suspected campsite were perhaps the most famous artefacts were found on the atoll. The pot matches Dr CH Berry's Freckle Ointment, though the glass is not frosted as would have been common for the ointment at the time. For a woman known to be aware of her freckles, it's possible that Earhart would have carried a pot of ointment on her round-the-world trip. Could this have been hers?



A POCKETKNIFE

Another item uncovered at the theorised Seven Site campsite during the 2007 expedition was a piece of a pocketknife that was manufactured by Cattaraugus in the 1930s. It bears a striking resemblance to a similar knife that was included in an inventory taken of Amelia Earhart's plane after her initial failed attempt to fly around the world in 1937. Although the knife blades were missing, it was clear that they had been deliberately removed, perhaps to use as tools.

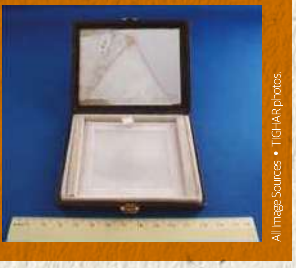


HUMAN WASTE

In 2010, a TIGHAR expedition found clumps of what appeared to be human faecal matter. Although the matter contains human DNA attributed to two individuals, there wasn't sufficient DNA in the samples to enable identification. As technologies increase, of course, this might prove to be an invaluable find when it comes to DNA matching Earhart and Noonan, or excluding this unusual find from the ever-growing collection of evidence accumulated by TIGHAR.

A COMPACT MIRROR

One of the most compelling pieces of evidence found at the Seven Site in 2007 was a 1930s cosmetic compact. Though the mirror is shattered, the compact still contained the remains of a woman's rouge. Earhart always carried a compact and the possibility of such a culturally specific object finding its way into a distant corner of a remote Pacific island by chance is highly unlikely. Did Amelia Earhart lose her compact when she was marooned?



All Image Sources • TIGHAR photos.

HAMMO
DEPARTMENT OF COMMERCE
BUREAU OF AIR COMMERCE

Amelia Earhart in an aeroplane, taken in 1936. Earhart was an experienced and well-known pilot

Image Source • Public Domain; Library of Congress's Prints and Photographs division.

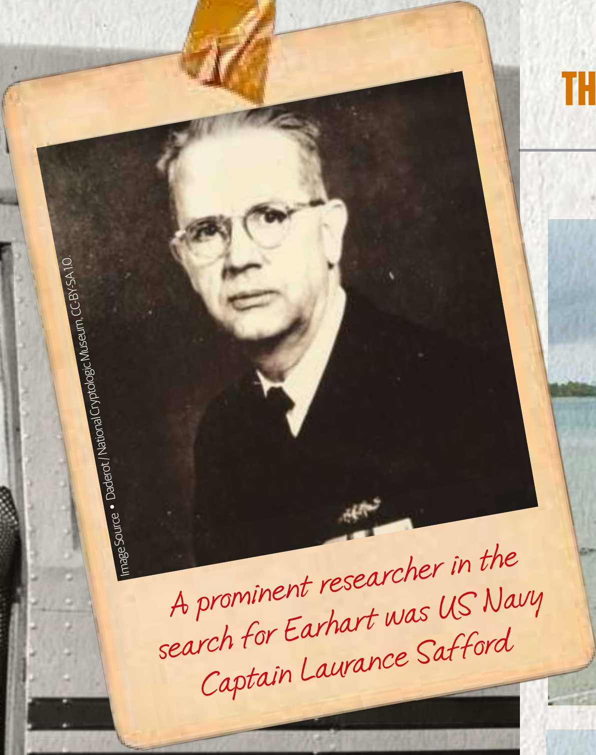
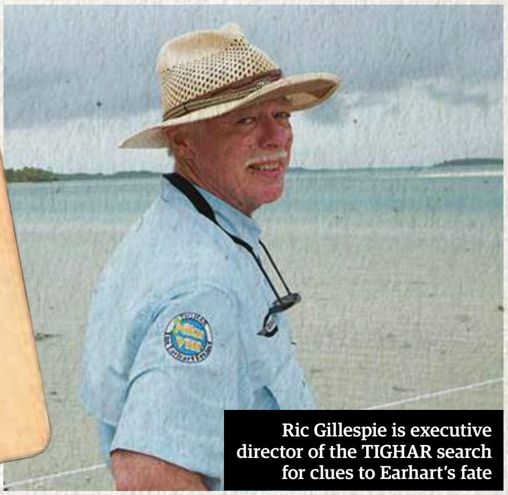
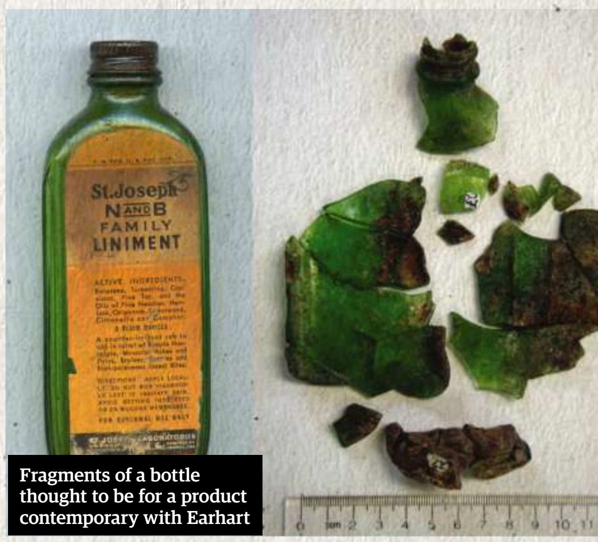


Image Source • Daderot / National Cryptologic Museum, CC BY-SA 1.0

A prominent researcher in the search for Earhart was US Navy Captain Laurance Safford



Ric Gillespie is executive director of the TIGHAR search for clues to Earhart's fate



Fragments of a bottle thought to be for a product contemporary with Earhart

Image Sources • TIGHAR photos

could only search fruitlessly and desperately for some way to bring the plane safely to land. Instead, it vanished from the skies.

But what became of Amelia Earhart?

Immediately after the apparent loss of the plane, search and rescue efforts began. The US Navy combed the area around Howland Island, searching for any trace of the downed flier. For weeks the search continued, yet it found no evidence that Earhart, Noonan or the plane in which they had been travelling had ever been there at all. Less than two years later, in January 1939, Amelia Earhart was officially declared dead.

The memory of the adventurous aviator, however, proved considerably more difficult to lay to rest. She continues to fascinate researchers who have devoted their lives to uncovering the fate of Earhart and solve this enduring mystery.

One of the most prominent researchers was United States Navy Captain Laurance Safford, who devoted his considerable expertise in communications technology to investigating the case. His efforts were further supported by other experienced navigators and professionals, who sought to prove that the plane had been forced to ditch in the ocean, having run out of fuel. Other researchers concluded that Earhart landed on Gardner Island, also known as Nikumaroro, though multiple search parties found no definitive proof that remains later discovered there were those of Amelia Earhart or Fred Noonan. Frustratingly, a skeleton found on the island in 1940 was sent to Fiji for analysis and has long since been lost.

In 1988, The International Group for Historic Aircraft Recovery (TIGHAR) began its own pioneering investigation into the case, determined to discover what had happened on that fateful morning once and for all. TIGHAR believe that Earhart, unable to locate Howland Island, successfully landed on a reef that was located just off the coast of Nikumaroro instead. Earhart was already following the line towards Gardner and in her last transmissions she had confirmed this.

Here, they believe, she and Noonan continued to send out distress calls, which went unanswered. Over the next few nights, operators around the region and in the USA heard faint distress calls that were dismissed as hoaxes, though perhaps they were not. With their exact location unknown, the stranded pair were at the mercy of nature and, alone on the atoll, all they could do was sit and wait for the rescue that never came.

Although the US Navy flew a search party over Nikumaroro a week after the disappearance, no evidence of the Electra was seen. Of course, by this time the plane would long since have been claimed by the tide. Although the naval pilots did see evidence of recent human habitation, they didn't realise at the time that Nikumaroro had been uninhabited since 1892 and, thinking they had seen nothing untoward, they continued on their way. To add to this compelling theory, when a small party of local people set up temporary residence on the island months later, they built a rudimentary settlement using salvaged materials. Archaeological work on the site later revealed that these islanders had access to Plexiglas and aluminium, exactly the sort of items that one might salvage from a plane wreck.

TIGHAR researchers believe that Noonan and Earhart survived on the atoll for at least a short period. Perhaps injured and with few supplies, the castaways would have faced a miserable fate, foraging for food and left without any drinking water other than rain. TIGHAR hypothesise that Noonan likely died first, if not in the plane, then soon after they landed. Left alone, Earhart survived for a short time on the atoll before her eventual death. They believe that the skeleton lost long ago in Fiji was that of the pilot and that, using computer modelling to recreate the measurements and weights recorded at the time of the discovery, they can demonstrate that the remains were most likely those of a woman of North European descent with the same build as Amelia Earhart. What became of Noonan, however, remains open to conjecture. To add further fuel to this compelling fire, a photograph that was taken at the reef in October 1937 was examined and enhanced in 2012. It showed, as TIGHAR have claimed, the unmistakable remains of the landing gear of the Lockheed Electra.

TIGHAR's efforts to prove their theory regarding the lost flight have continued for almost three decades. During this time, they have undertaken multiple archaeological excavations and uncovered several artefacts that appeared to be consistent with the presence of a western woman of the 1930s. They have also investigated a sextant box discovered on Nikumaroro in 1940, demonstrating that it was Noonan's favoured make and model.

If Earhart and Noonan died on the atoll though, what became of the Electra? Certain that the plane now rested at the bottom of the ocean, TIGHAR undertook an expedition made up of professionals from a variety of disciplines in 2007 and combed the reef for the missing aircraft. In 2010, they returned, this time to employ sonar-mapping techniques, suspecting that the badly degraded remains might rest deep in the ocean. Unfortunately, efforts to reach the area were thwarted by technical difficulties, so what might be concealed at the bottom of the deep reef remains a mystery.

Now, however, plans are underway for TIGHAR to return to the island and investigate a lagoon where they hope wreckage from the plane might have been washed in from the ocean. Investigating this lagoon, a far smaller search area, means that the chances of finding evidence proving that Earhart and Noonan crashed around the island are much improved. The group is also striving to bring more attention to their investigations to find out what happened to the pilot by means of published works, expanding on their previous projects and investigations.

The evidence that Earhart did indeed survive to live at least for a short time on Nikumaroro might initially have appeared circumstantial but, as TIGHAR's extensive investigations and research have continued, it has become increasingly compelling. We know that Earhart was headed for Nikumaroro and that someone did live there in 1937 when it was supposedly uninhabited, but who that was, we don't know.

TIGHAR at work digging up the finds that support their theory that Earhart and Noonan died on Nikumaroro

> "PLANS ARE UNDERWAY FOR TIGHAR TO RETURN TO THE ISLAND AND INVESTIGATE A LAGOON WHERE THEY HOPE WRECKAGE FROM THE PLANE MIGHT HAVE WASHED IN"

Nikumaroro's lagoon, a beautiful but likely unyielding place to become stranded

Image Source • Public Domain; Angela K. Kepler.

A fragment of a glass bottle found on the atoll, with evidence for a link to Earhart in time and production of the bottle

Image Source • TIGHAR photos.

The other theories

While TIGHAR have uncovered what they deem to be the truth, others have reached different conclusions about Earhart's fate

DITCH AND SINK

The most popular theory is that the plane was forced to ditch of the coast of Howland Island as a result of technical problems and lack of fuel. Unable to radio for help, Noonan and Earhart would have been claimed by the waves, if they had even survived the crash that brought them down. This theory has long been accepted as the most likely explanation behind the mystery, and some speculate that the remains of the plane and its crew are almost 6,000 metres beneath the surface of the Pacific Ocean.

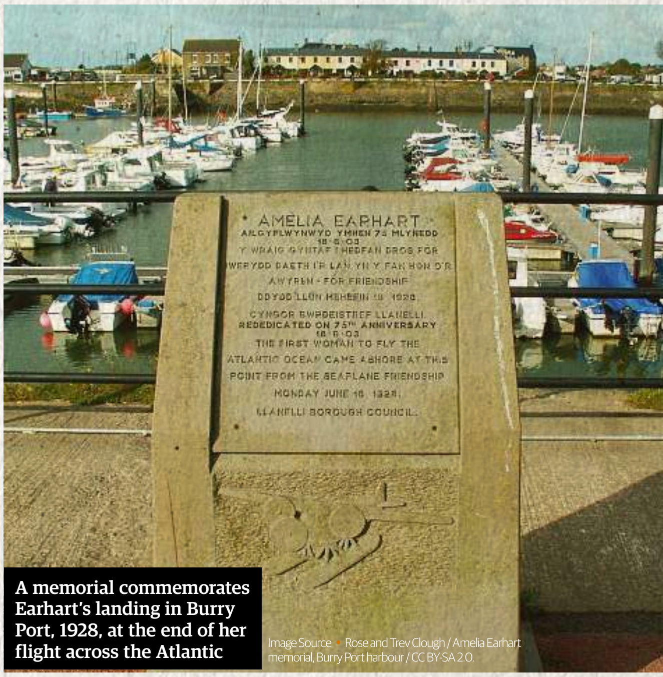
CAPTURED BY THE JAPANESE

When Japanese research by Mitsubishi appeared to include components inspired by the Electra, a theory emerged that Earhart had actually crashed on Saipan. Author Fred Goerner theorised that she and Noonan were captured by the Japanese and placed in prison, where they later died. Others claim that Japanese forces deliberately shot down the plane or that Amelia Earhart was the infamous Tokyo Rose, a claim her husband rejected out of hand after conducting a private investigation.

A NEW LIFE

One of the most outlandish theories emerged in 1970, when it was claimed that Earhart successfully flew to New Jersey and began a new life as Irene Craigmile Bolam. When Bolam read the theory in a book by Joe Klaas, she took legal action that resulted in the book being withdrawn. Although Bolam and Earhart had mutual friends, Bolam's life was well documented, and there was no evidence that she was a construct of a woman seeking to leave her old life behind. Later forensic investigations by craniofacial specialists resulted in this audacious theory being discredited.

Image Sources • 1. Public Domain; U.S. Air Force • 2. Public Domain; Tokyo Rose & JOAK mic DSC_0858 (Flickr) • 3. Public Domain; Maxistheone


AMELIA EARHART
AILGYFLWYNWYD YMHEN 75 MLYNEDD
18·6·03
Y WRAIG GYNTAF I HEDFAN DROS FOR
WERYDD DAETH I'R LAN YN Y FAN HON O'R
AWYREN - FOR FRIENDSHIP
DDYDD LLUN MEHEFIN 18 1928
CYNGOR BWRDEISTREF LLANELLI
REDEDICATED ON 75TH ANNIVERSARY
18·6·03
THE FIRST WOMAN TO FLY THE
ATLANTIC OCEAN CAME ASHORE AT THIS
POINT FROM THE SEAPLANE FRIENDSHIP
MONDAY JUNE 18, 1928.
LLANELLI BOROUGH COUNCIL.

A memorial commemorates Earhart's landing in Burry Port, 1928, at the end of her flight across the Atlantic

Image Source • Rose and Trev Clough / Amelia Earhart memorial, Burry Port harbour / CC BY-SA 2.0.

Image Source • Pacific Aviation Museum.

Amelia Earhart pictured looking carefree in Waikīkī, Hawaii, also in 1935

Earhart inspecting maps of Hawaii in 1935

Image Source • Pacific Aviation Museum.

As TIGHAR's Ric Gillespie comments, "What I have learned is that 'smoking guns' are in the eye of the beholder," yet TIGHAR has revealed more than its fair share.

With technological insights improving at a rate of knots, it is surely only a matter of time before that tantalising anomaly on the ocean floor is properly investigated, and each new expedition to Nikumaroro uncovers fresh evidence of the case. Perhaps TIGHAR's efforts will see the spirit and mystery of Amelia Earhart finally be laid to rest, nearly a century after she disappeared from the skies.

THE DISAPPEARING SKY JACKER

Has ‘DB Cooper’ eluded the might and manpower of the FBI for more than 40 years, or did he die from a failed parachute jump one night in November 1971?

WRITTEN BY **PAUL DONNELLEY**

Image Source • Alamy.

The FBI is proud of its ability to solve crimes. Founded in July 1908, the United States of America's Federal Bureau of Investigation has failed to solve just one case of air piracy - or skyjacking - in its 100 years-plus of history: the infamous case of DB Cooper.

On the day before Thanksgiving in 1971, a man calling himself Dan Cooper boarded a Boeing 727-100, Northwest Orient (now Northwest Airlines) Flight 305, at Portland International Airport in Oregon, on the 30-minute trip bound for Seattle, Washington. The flight took off as scheduled at 2.50pm and was about a third full. The man calling himself Dan Cooper settled into seat 18C, for which he had paid $18.52 plus tax. He was inconspicuous, if slightly overdressed in a dark suit, a white collared shirt, a black necktie with a mother of pearl tie pin and loafers. He was also carrying a briefcase. Once comfy, he ordered a bourbon and soda and lit a cigarette.

Shortly after take off, Cooper motioned to air hostess Florence Schaffner, who was sitting on a jump seat, and, as she approached, he passed her a piece of paper. Assuming that he was trying to slip her his telephone number, she put it into her pocket without looking at it.

Cooper then said to her: “Miss, you'd better look at that note. I have a bomb.” With trembling hands, Miss Schaffner unfurled the note, which had the following information written in felt-tip pen in capital letters: “I have a bomb in my briefcase. I will use it if necessary. I want you to sit next to me. You are being hijacked.”

Miss Schaffner sat next to Cooper and asked to see the device. Cooper opened his case slightly and she saw wires, a battery and eight red cylinders. She was given his demands. Cooper wanted $200,000 in “negotiable American currency,” four parachutes and for the plane to be refuelled in Seattle.

The air hostess took the note to the pilot, William A Scott, with the instructions. When she came back, Cooper was sporting a pair of dark sunglasses.

PASSENGER SAFETY

Captain Scott immediately radioed the control tower at Seattle-Tacoma Airport who, in turn, contacted the airline as well as the FBI to inform them of the unfolding hostile situation on board Flight 305.

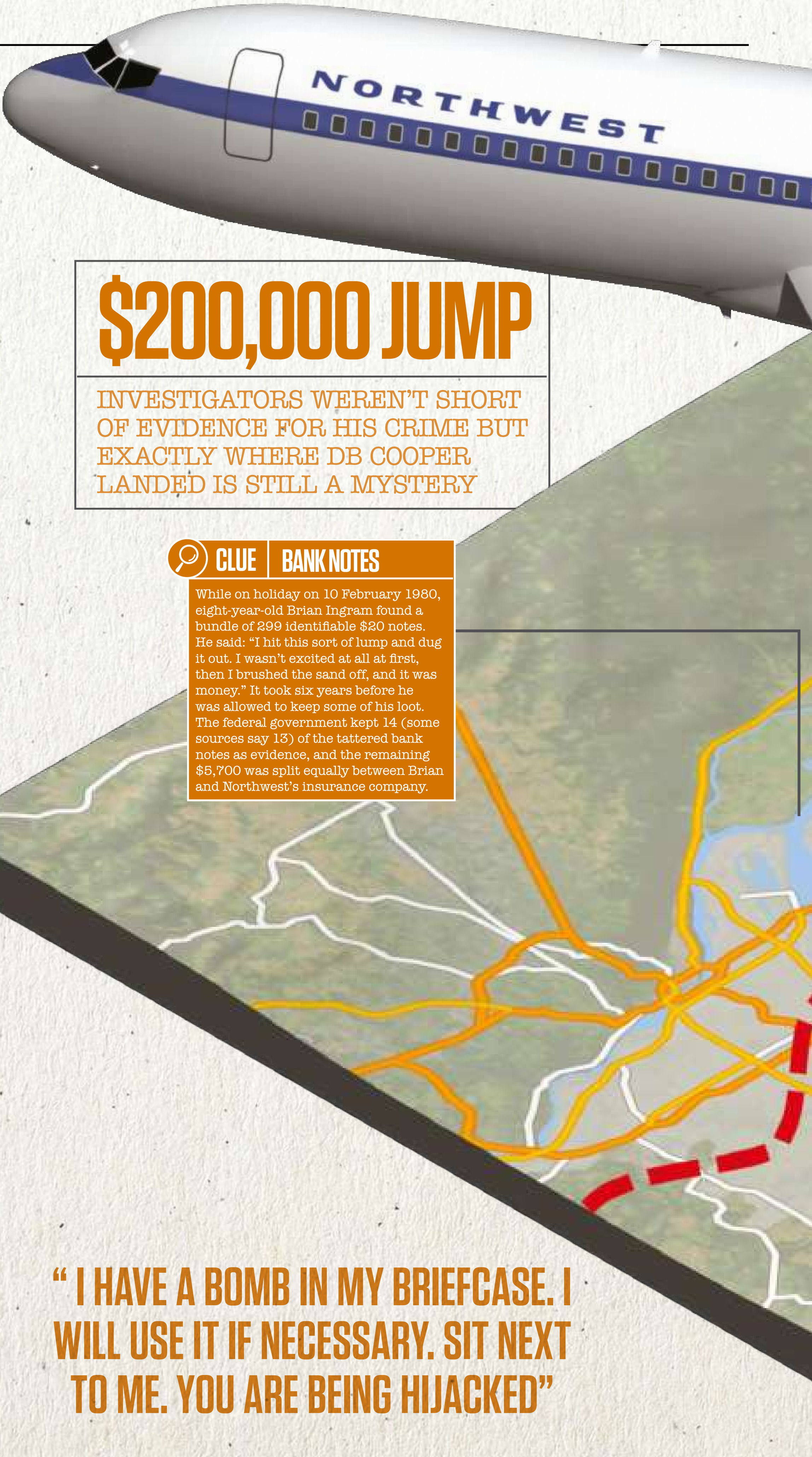
The bureau asked Northwest Orient what they wanted to do about the situation that was unfolding on one of their planes thousands of feet in the air, and airline president Donald Nyrop told them that keeping their passengers safe was his main priority. He agreed to pay the ransom and provide the parachutes and made it clear that all employees were to co-operate fully with the hijacker.

In the meantime, Captain Scott made an announcement over the loudspeaker to the effect that there would be a short delay before reaching their destination, because of a minor mechanical fault. The plane circled for two hours over Puget Sound to allow the ransom demands to be met and emergency personnel to be assembled.

The FBI carefully recorded all the notes that came from the Federal Reserve Bank of San Francisco onto microfilm - 10,000 unmarked $20 bills - before passing them on. While the authorities were busy on the ground, Cooper relaxed and drank a second bourbon and soda, which he paid for. Another hostess, Tina Mucklow, later commented that the hijacker "seemed rather nice".

Florence Schaffner noted that he seemed familiar with the area, pointing out landmarks.

At 5.24pm, Cooper's demands were finally met and 15 minutes later, the plane landed at Seattle-Tacoma International Airport. Under Cooper's instructions, Captain Scott taxied the plane to a remote but well-lit area of the runway and all the lights in the cabin were switched off. Al Lee, Northwest Orient's Seattle



$200,000 JUMP

INVESTIGATORS WEREN'T SHORT OF EVIDENCE FOR HIS CRIME BUT EXACTLY WHERE DB COOPER LANDED IS STILL A MYSTERY

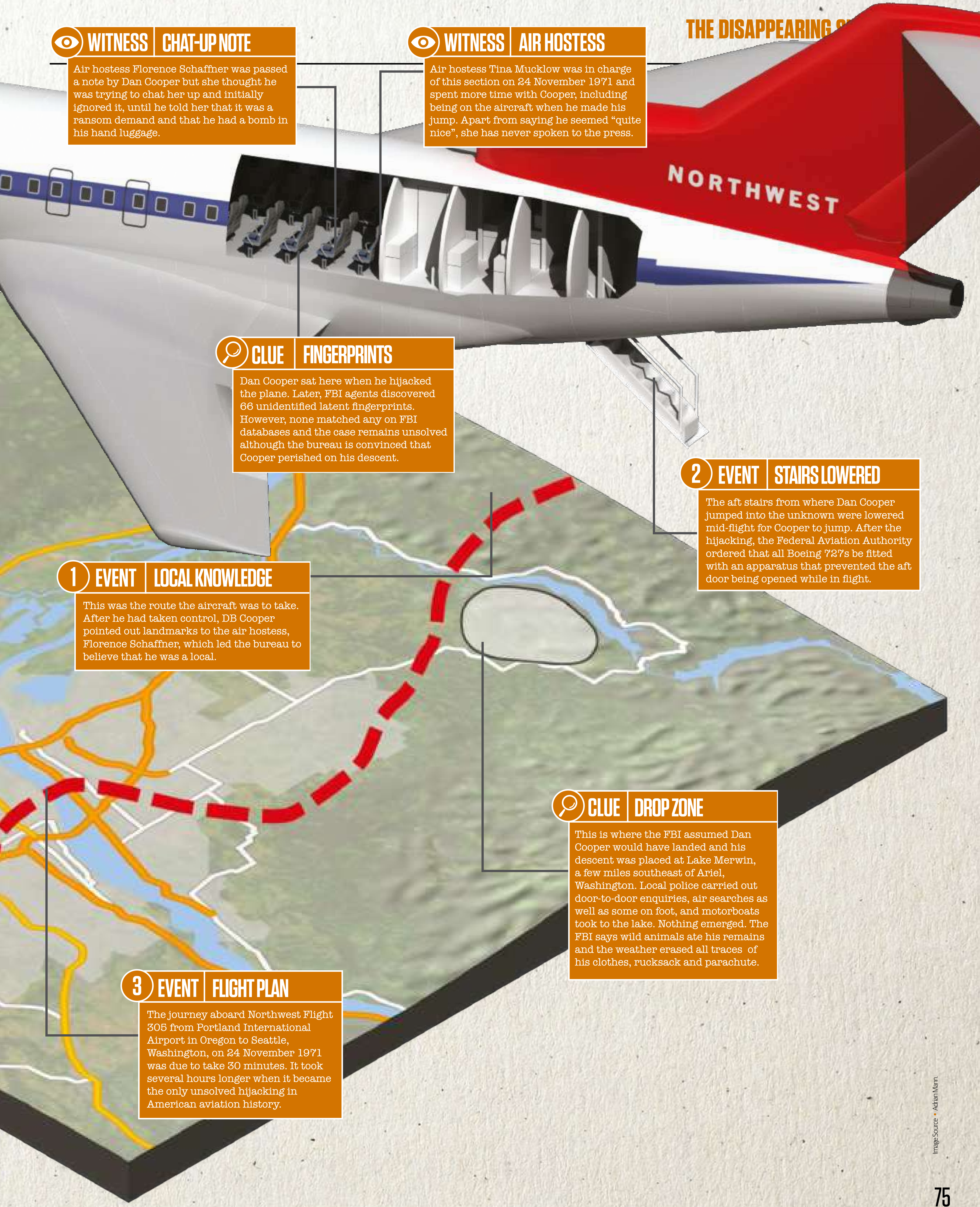
CLUE | BANK NOTES

While on holiday on 10 February 1980, eight-year-old Brian Ingram found a bundle of 299 identifiable $20 notes. He said: "I hit this sort of lump and dug it out. I wasn't excited at all at first, then I brushed the sand off, and it was money." It took six years before he was allowed to keep some of his loot. The federal government kept 14 (some sources say 13) of the tattered bank notes as evidence, and the remaining $5,700 was split equally between Brian and Northwest's insurance company.

Death dive

Retired FBI Agent Ralph Himmelsbach claims that Cooper could not have survived the jump with almost ten kilograms of money strapped to his waist. He is wrong. In the USA, 727s are used by private individuals for commercial skydiving. Indeed, people pay extra to do the Cooper jump. On 7 April 1972, Richard Floyd McCoy Jr, a Vietnam veteran, skyjacked a United Airlines 727, demanding $500,000. He jumped from the plane over Provo, Utah at 16,000 feet and travelling at 320 kilometres per hour. He survived, so it seems entirely possible that Cooper – jumping at 6,000 feet below McCoy – could have lived to tell his tale. Unlike Cooper, McCoy was tracked down and brought to justice. He was arrested two days later and sent to prison for 45 years.

" I HAVE A BOMB IN MY BRIEFCASE. I WILL USE IT IF NECESSARY. SIT NEXT TO ME. YOU ARE BEING HIJACKED"



WITNESS | CHAT-UP NOTE

Air hostess Florence Schaffner was passed a note by Dan Cooper but she thought he was trying to chat her up and initially ignored it, until he told her that it was a ransom demand and that he had a bomb in his hand luggage.

WITNESS | AIR HOSTESS

Air hostess Tina Mucklow was in charge of this section on 24 November 1971 and spent more time with Cooper, including being on the aircraft when he made his jump. Apart from saying he seemed "quite nice", she has never spoken to the press.

CLUE | FINGERPRINTS

Dan Cooper sat here when he hijacked the plane. Later, FBI agents discovered 66 unidentified latent fingerprints. However, none matched any on FBI databases and the case remains unsolved although the bureau is convinced that Cooper perished on his descent.

2 EVENT | STAIRS LOWERED

The aft stairs from where Dan Cooper jumped into the unknown were lowered mid-flight for Cooper to jump. After the hijacking, the Federal Aviation Authority ordered that all Boeing 727s be fitted with an apparatus that prevented the aft door being opened while in flight.

1 EVENT | LOCAL KNOWLEDGE

This was the route the aircraft was to take. After he had taken control, DB Cooper pointed out landmarks to the air hostess, Florence Schaffner, which led the bureau to believe that he was a local.

CLUE | DROP ZONE

This is where the FBI assumed Dan Cooper would have landed and his descent was placed at Lake Merwin, a few miles southeast of Ariel, Washington. Local police carried out door-to-door enquiries, air searches as well as some on foot, and motorboats took to the lake. Nothing emerged. The FBI says wild animals ate his remains and the weather erased all traces of his clothes, rucksack and parachute.

3 EVENT | FLIGHT PLAN

The journey aboard Northwest Flight 305 from Portland International Airport in Oregon to Seattle, Washington, on 24 November 1971 was due to take 30 minutes. It took several hours longer when it became the only unsolved hijacking in American aviation history.

Image Source • Adrian Mann

operations manager, delivered the four parachutes and the money in a rucksack handing them to Tina Mucklow.

Once he was satisfied, Cooper released all 36 passengers and the air hostess Florence Schaffner as he had promised. The plane was refuelled and, having checked the parachutes and money that he had been given, Cooper told the remaining crew (pilot William Scott, co-pilot William John Rataczak, air hostess Tina Mucklow and flight engineer HE Anderson) to take off at precisely 7.40pm and head in the direction of Mexico City. Cooper gave the pilots instructions on how he wanted the plane flown but First Officer Rataczak told the hijacker that they would need to refuel before entering Mexican airspace. The destination was altered to Reno, Nevada.

Unknown to Cooper, two F-106 fighters from the local McChord Air Force Base followed behind the airliner, one above and one below.

Once the plane was in the air, Cooper told the air hostess to join her colleagues in the cockpit and close the door. At about 8pm, a warning light told the pilot that the aft staircase door was open, a fact verified by the air pressure on board.

At 8.13pm, during a heavy rainstorm, Cooper lowered the aft stairs and jumped from the plane over south-western Washington. He would never be seen again.

At 10.15pm, the Boeing 727 landed at Reno Airport, and after a search, the FBI recovered two of the four parachutes, plus the black clip-on tie and mother of pearl tie clip that had been worn by Cooper. They also recovered 66 unidentified fingerprints.

FBI Agent Ralph Himmelsbach was in charge of the investigation into the skyjacking from 1971 to 1980. He has said that he believes that Cooper died during the jump. "I can't say that it wasn't survivable, but it's unlikely," he said. "That airliner was going 170 knots at 10,000 feet. Outside air temperature was seven degrees below zero, with a chill factor of about 69 degrees below zero."

EATEN BY WILD ANIMALS

He is further of the opinion that Cooper died during the jump and was then eaten by wild animals. His clothes, parachute and the money were all destroyed by the elements. That is the bureau's explanation as to why no trace of Cooper's body was ever found.

However, Cooper had made sure that the odds, such as they were, were in his favour. He told the pilot to stay below 10,000 feet. If the plane had gone any higher, the cabin would have had to be pressurised, which would have made it extremely difficult if not impossible for Cooper to open the door.

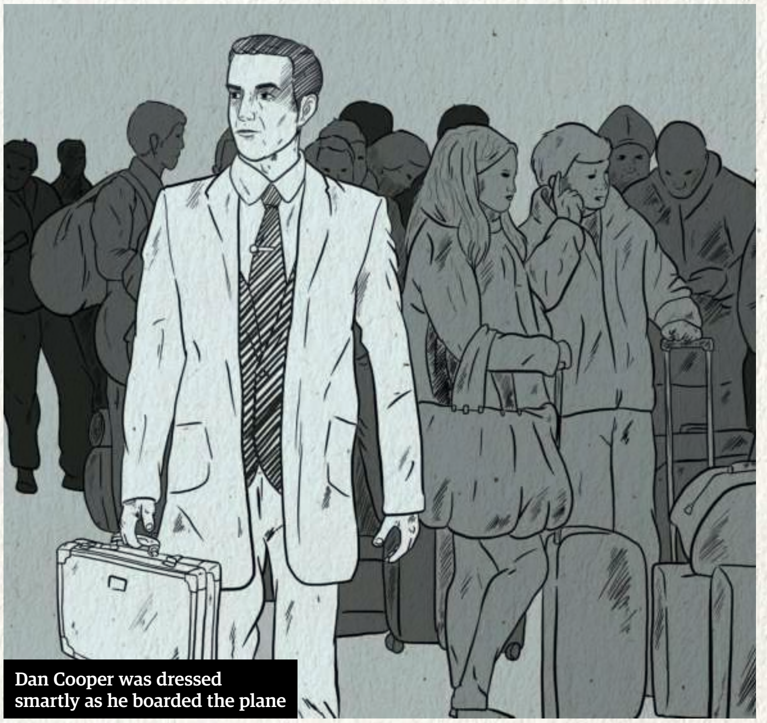
He also demanded that the flaps be set at exactly 15 degrees, which would have prevented the aircraft travelling at more than 320 kilometres per hour.

ABOVE TOP
FBI agents dig the sandy beach where a portion of the hijack money given to DB Cooper was found

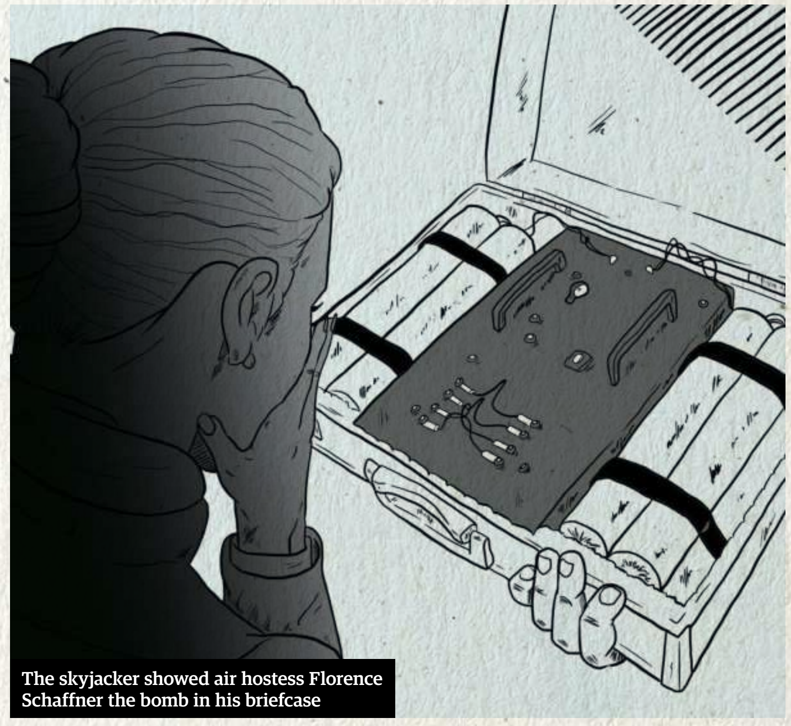
ABOVE
Mr and Mrs Ingram held a press conference after their son discovered some of the money given to DB Cooper

RIGHT
Eight-year-old Brian Ingram shows where he found three bundles of decomposed $20 dollar bills that were taken by DB Cooper during the hijacking

Image Sources • Corbis.



Dan Cooper was dressed smartly as he boarded the plane



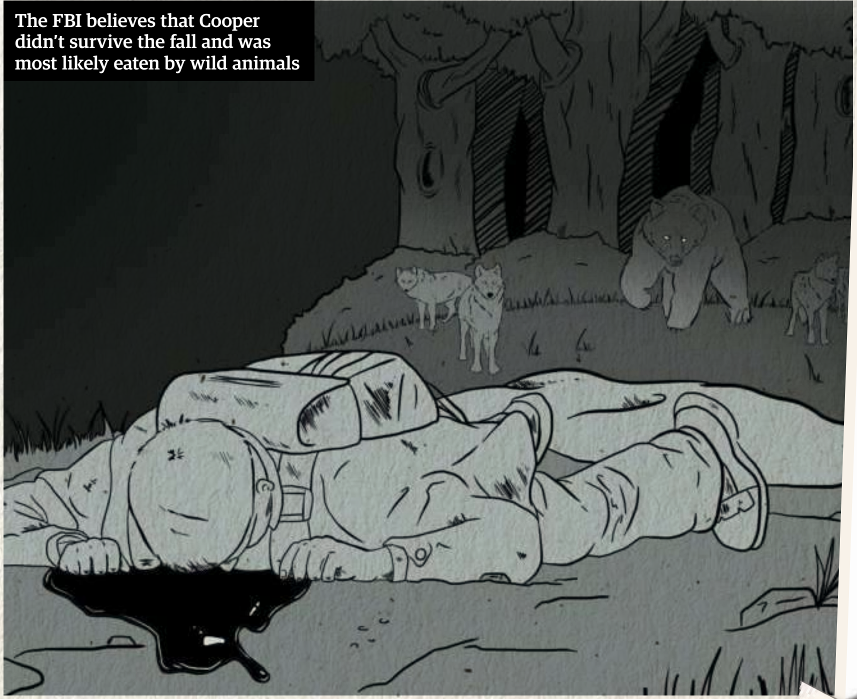
The skyjacker showed air hostess Florence Schaffner the bomb in his briefcase

“A WARNING LIGHT TOLD THE PILOT THAT THE AFT STAIRCASE DOOR WAS OPEN, A FACT VERIFIED BY THE AIR PRESSURE ON BOARD. AT 8.13PM, DURING A HEAVY RAINSTORM, COOPER LOWERED THE AFT STAIRS AND JUMPED FROM THE PLANE”

“WHILE THE AUTHORITIES WERE BUSY ON THE GROUND, COOPER RELAXED AND DRANK A SECOND BOURBON AND SODA”

The real Dan Cooper

It was a few days later in the press that “Dan Cooper” was accidentally transformed into “DB Cooper”, after a local man with the same name and a criminal record was interviewed by Portland police. A wire reporter wrote a story identifying him as a suspect, and that is the way it has stayed. There are several theories as to where the name Dan Cooper came from, but one of the most popular is that it originated in a Franco-Belgian comic, where Dan Cooper was a Canadian flying ace and rocket ship pilot.



The FBI believes that Cooper didn’t survive the fall and was most likely eaten by wild animals

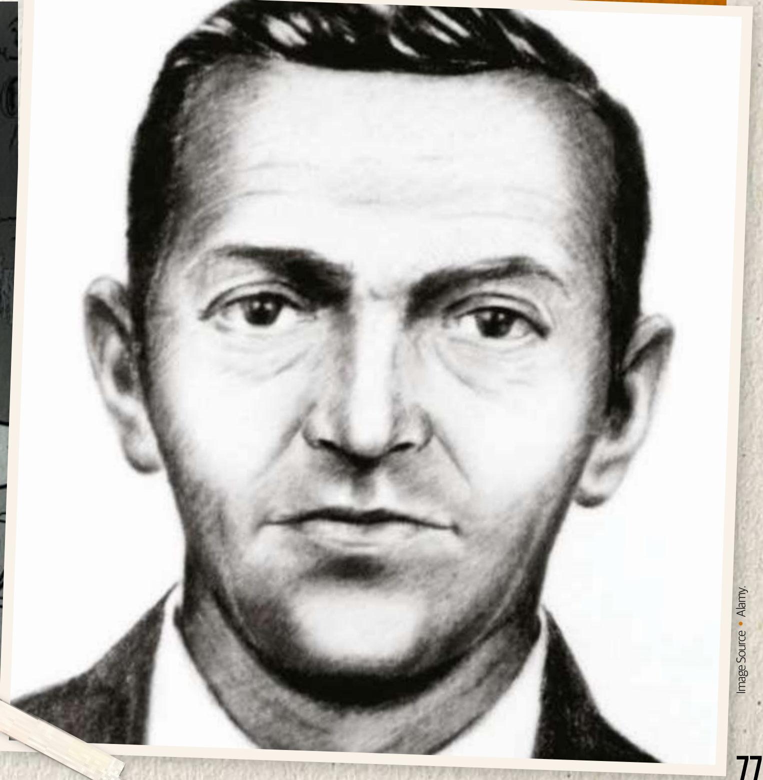


Image Source • Alamy

THE INVESTIGATION

With so few clues left by the skyjacker, the FBI struggled to generate any leads

What the FBI knew was that the man calling himself Dan Cooper walked through an airport lounge and boarded a plane with almost 40 other passengers. Witnesses described him as being in his mid-40s, about six foot tall, and wearing a black raincoat, loafers, a dark suit, a white shirt, a black tie, black sunglasses and a mother of pearl tie pin. When trying to discover where he landed, the FBI was hampered by the fact that even minor variations in wind speed could alter a possible landing ground by some miles.

The bureau used modelling to "suggest" where Cooper may have landed, and at first his descent was placed at Lake Merwin, a few miles south east of Ariel, Washington. Police carried out door-to-door enquiries in the area, air searches as well as on foot and motorboats took to the lake. Nothing emerged.

SERIAL SEARCHES

Towards the end of 1971, the FBI released the serial numbers of all the ransom bills to banks, casinos, race tracks and anywhere else large sums of money might change hands. Northwest Orient offered a reward of 15 per cent of any recovered money, to a maximum of $25,000. However, again there were no leads. Then, in early 1972, Attorney General John Mitchell decided to release all the serial numbers to the public. Still nothing concrete emerged.

In March of that year, once the weather had improved, the FBI and 200 local soldiers from Fort Lewis plus assorted National Guardsmen and civilian volunteers began another search for the elusive Mr Cooper – or what was left of him. They spent 18 fruitless days searching and even took a similar amount of time the following month, with the same result. There had also been a false alarm when two women chanced upon a skeleton, but a post-mortem examination showed the body was a teenage female.

As time passed, it seemed less than likely that any money would be found, and so in 1973, The Oregon Journal republished all the serial numbers and offered a reward of $1,000. Another local newspaper, the Post-Intelligencer in Seattle, offered $5,000 as a reward to the first person who handed in just one of the notes. Nothing emerged.

Finally in 1975, Global Indemnity, Northwest Orient's insurance company, paid the airline's $180,000 claim.

HUNDREDS OF SUSPECTS

In the year after Cooper's jump, 15 people attempted to hijack planes, all unsuccessfully. None of them were Cooper.

There have been more than 1,000 suspects investigated by the FBI including a World War II veteran, a mass murderer, a criminal and a university professor. All were ruled out but one recent name in the frame is Kenneth Peter Christiansen, a former Northwest Airlines employee.

Born on 17 October 1926, Christiansen joined the army in 1944 and was trained as a paratrooper. He joined Northwest Orient in 1954 and worked as a mechanic, an air steward and then a purser (responsible for handling money). He never earned more than $512 a month working at the airline before the hijacking. Afterwards, he loaned a friend's sister, Dawn Androsko of Fox Island, Washington, $5,000 cash and then spent $16,000, paid at least partially in cash, for a house in Bonney Lake, Washington. This was all within eight months of the crime. Where did the money come from?

The FBI ruled out Christiansen as a suspect because he did not match the description provided by witnesses and had no criminal record. He was 45 in November 1971 but bald, shorter, thinner, and paler than Cooper. He did, however, smoke, drink bourbon and was, as was believed Cooper, left-handed. Florence Schaffner told a reporter she thought pictures of Christiansen looked like Cooper. Tina Mucklow, the other hostess, has never spoken to the press.

The FBI also discounted Christiansen because, as a former employee of the airline, he would almost certainly have been recognised by the staff on the flight. However, the hijacked flight was an internal one and Christiansen worked the international route. In that period, there was little or no mingling between staff.

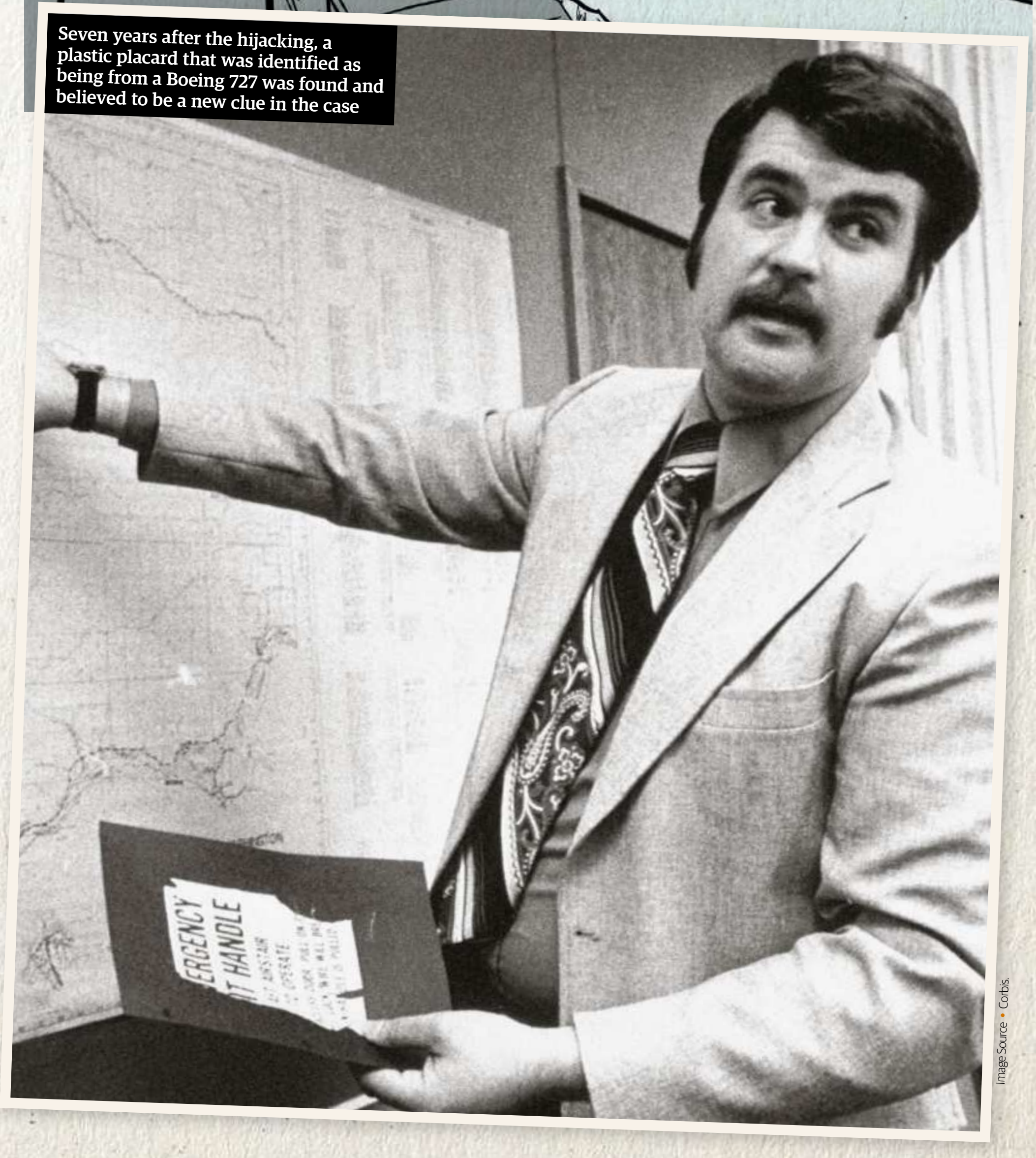
Christiansen died of cancer on 30 July 1994 but as he lay dying, he told his brother, Lyle: "There is something you should know, but I cannot tell you." Lyle remembered that although his brother wore a toupee before the hijacking, he never wore it afterwards. He also learned that his brother had $186,276.14 in a savings account and $20,541.92 in his current account – amazing figures considering Christiansen had often resorted to doing odd jobs to make ends meet. The FBI refuses to countenance Christiansen as a suspect.

The badly decomposed bills were found to have the same serial numbers as the ones from the hijacking

Image Source • Corbis

CURRENT
$20541.92
SAVINGS
$186276.14

When suspect Christiansen died, he had a large amount of savings



Seven years after the hijacking, a plastic placard that was identified as being from a Boeing 727 was found and believed to be a new clue in the case

Image Source • Corbis

THE AFTERMATH

More than 40 years after the event, the police are no nearer to identifying the hijacker nor finding out what happened to the ransom

The mysterious Dan Cooper hijacking led to a series of airport security changes but this was not before a spate of copycat crimes that shortly followed, in 1972. The Federal Aviation Authority ordered that all Boeing 727s be fitted with an apparatus that prevented the aft door being opened while in flight. Indeed, a number of airlines went further and had the door welded shut. There was also a peephole fitted to all cockpit doors that allowed the crew to observe the passengers while the door was closed.

41 years after the hijacking, on 23 April 2013, Earl Cossey, a 71-year-old divorced man who had supplied the original four parachutes for Cooper, was found murdered in the garage of his home, on North-East 192nd Street in Woodinville, a suburb of Seattle. Like the mysterious hijacking case, the murder of Mr Cossey is an unsolved crime. Some tie it to the DB Cooper case.

Each time the FBI found a piece of parachute in the vicinity, they took it to Mr Cossey. “They keep bringing me garbage,” he told the Associated Press in March 2008, after the FBI brought him a silk parachute found by children on a road in southwest Washington. “Every time they find squat, they bring it out and open their trunk and say, ‘Is that it?’ and I say, ‘Nope, go away.’ Then a few years later they come back.”

On 10 February 1980, eight-year-old Brian Ingram found $5,880 in decaying $20 notes on the banks of the Columbia River, five miles north west of Vancouver, Washington, while on holiday with his family. It turned out to be part of Cooper’s hoard, and 15 of the notes were later auctioned in Texas raising more than $37,000 for the now 36-year-old Ingram. None of the other 9,710 bank notes have been found.

Dead women seemed to follow in the wake of the investigation. In 1981, while searching for more evidence, a human skull was found. Excitement that it might belong to Cooper was soon discounted when it was found to be that of a female.

Seven years later, a piece of parachute material was found in the same location but it was soon discounted as being part of Cooper’s.

In March 2009, the FBI revealed that a team of experts from the Burke Museum of Natural History and Culture in Seattle had been hired to investigate the Cooper case. They used modern techniques that had been unavailable in 1971. In November 2011, they reported that they believed Cooper was a metallurgist or chemist, or possibly the manager of a chemical plant.

After their initial investigations, the FBI originally thought that Cooper was a former member of the United States Army Air Forces (USAAF) and probably a Seattle native. His knowledge of the plane, especially the placing of the exit from which he jumped, confirmed in their minds his military background.

However, Special Agent Larry Carr, the head of the investigative team since 2006, said: “We originally thought Cooper was an experienced jumper, perhaps even a paratrooper. We concluded after a few years this was simply not true. No experienced parachutist would have jumped in the pitch-black night, in the rain, with a 200-mile-per-hour wind in his face, wearing loafers and a trench coat. It was simply too risky.” Special Agent Carr continued with no small note of incredulity: “Diving into the wilderness without a plan, without the right equipment, in such terrible conditions, he probably never even got his chute open.”

VANISHED INTO THIN AIR

The bizarre disappearances of various famous individuals have instigated numerous conspiracy theories, but will we ever find out what really happened to these lost souls?

WRITTEN BY **JOANNA ELPHICK**

Losing a loved one is always a painful experience, but after the funeral grieving friends and family can slowly begin to rebuild their lives and move on. Sadly, when someone simply disappears never to be seen again, the desperate spark of hope that they will someday return stunts the healing process, denying that all-important sense of closure. Not even the greatest of magicians can really vanish into thin air, so where did these poor souls go? A lack of concrete answers inevitably leads to half-truths, hearsay and supposition, all wrapped up in a tantalising shroud of mystery… and none more so than the suspicious case of Lord Lucan.

Image Source / Getty Images

The dashing young aristocrat and alleged murderer

DISAPPEARANCE 01

RICHARD BINGHAM

7TH EARL OF LUCAN

Date went missing
8 November 1974

The Earl of Lucan, known to his aristocratic chums as 'Lucky Lucan', had been rather less fortunate than usual in the months leading up to his mysterious disappearance. An obsessive gambler, he had recently lost his winning streak and was now living off his overdraft. His family life had also unravelled. His wife, Veronica, had forced him out of the family home two years earlier, claiming domestic abuse. Such allegations were almost certainly true since the former member of the Coldstream Guards had a reputation for violence and an explosive temper.

Veronica had recently won a battle against her estranged husband, who had been fighting to retain control of their three children. Lucan had been devastated as the judge handed sole custody to the woman he had grown to hate.

Despite the legal bills and mounting household expenses, Lucan chose to forget his sorrows at the Clermont Club, an exclusive, members-only gambling club in Mayfair, owned by his friend John Aspinall.

Veronica had continued to live at the family home in Lower Belgrave Street with her children and the nanny, Sandra Rivett. On the night of 7 November, Sandra shouldn't have been there since it was usually her night off but, unfortunately for her, she'd swapped it that week in order to help out.

At 8.40pm, Sandra offered to make some tea and bring it up. When she didn't return, Lady Lucan decided to investigate the holdup, venturing down to the kitchens, only

Image Source / Getty Images

Lord Lucan and his future wife, Veronica Duncan, shortly after they announced their engagement to be jumped upon and beaten repeatedly with a lead pipe. She recognised the assailant's voice as that of her husband. Fighting for her life, Lady Lucan grabbed his testicles and squeezed. Lord Lucan seemed to calm down and went to get a cloth to clean his wife's face, leaving Veronica a window of opportunity to escape.

At 9.45pm she burst into the nearby Plumbers Arms pub, screaming for help. When the police arrived, Sandra Rivett's body was discovered in the basement, wrapped in a canvas mail bag. Lucan had almost certainly mistaken Sandra for his wife and bludgeoned her to death.

Lucan was seen one last time, having shown up at his friends' house 42 miles away in Uckfield. Susan Maxwell-Scott listened to his fanciful story of an unknown assailant attacking his wife and the nanny, which he'd witnessed through the window. He claimed he'd gone in to help and interrupted the attack, but Veronica had screamed that Lucan had paid someone to kill her, so he fled. He telephoned his mother just after midnight, asking her to collect the children, and left, promising to "sort things out". He was never seen again.

So where did he go? Some claim he drowned himself in the Newhaven Harbour through sheer guilt at killing Rivett. His car had been found abandoned nearby. In 2012, Shirley Robey, who worked for Lucan's close friend John Aspinall, claimed to have overheard a conversation between his friends, stating that he had escaped to Africa. Veronica was extremely sceptical of this suggestion, since he liked his creature comforts and had a dislike for foreign places. Aspinall owned a zoo, which many believe was Lucan's final resting place. Lucan knew that, without proof of death, probate could not be granted for a minimum of seven years, meaning his children would be old enough to deal with their own estate affairs and his wife would lose all control. Clermont Club regulars believe that he shot himself at the zoo and had his body fed to the tigers. It is a gruesome tale but one that might just be true. Aspinall's mother apparently told police at the time, "Last I heard of him, he was being fed to the tigers at my son's zoo." Either way, 'Lucky Lucan' hasn't been seen for 45 years.

Donald Crowhurst aboard the Teignmouth Electron

Image Source • Alamy

DISAPPEARANCE 02

DONALD CHARLES ALFRED CROWHURST

Date went missing
29 June 1969

Donald Crowhurst was little more than a weekend sailor whose reckless decision to compete in the Sunday Times Golden Globe Race - a non-stop, single-handed, round-the-world yacht race - was destined to end in tragedy. Sadly, the £5,000 cash prize was too great a temptation for a man facing financial ruin and so, with little regard for the devastating impact it would have on his wife and children, he set off on 31 October 1968.

Things began to go wrong almost immediately since the 40-foot trimaran, the Teignmouth Electron, was an inappropriate choice for such a dangerous voyage. Lack of time and a general slapdash approach meant that he had set off without completing any of his safety devices and had been too busy giving interviews to the press to pack many of his supplies.

By December, he had realised that he was way out of his depth but dared not quit the race knowing that this would lead to enormous humiliation and financial ruin. He chose instead to cheat, shutting down his radio and planning to wait in the South Atlantic until the other sailors began the final leg. He would simply falsify the navigation logbook and join them on the return journey to England.

Back at home, his vague, sporadic radio reports led people to believe that he was winning, particularly since some other competitors had dropped out, but Crowhurst was, in fact, confused, lost and panicking.

The last radio contact was made on 29 June and the final entry in the log book was dated 1 July. Nine days later, the Teignmouth Electron was discovered drifting in the Atlantic Ocean. Donald Crowhurst had simply disappeared.

The log books depicted a man in absolute torment, wracked with guilt from his own subterfuge and terrified of discovery. If he had won the race, experts would have spotted his false entries and the cash prize would have been withdrawn, leaving him humiliated and his family in financial distress. Philosophical ramblings and bizarre poems show his steady descent into madness. Whether he jumped into the icy waters of his own volition or was knocked overboard by a rogue wave can never be established. The state of the boat suggests he took his own life in a desperate attempt to avoid facing what awaited him on dry land.

The winning sailor, Robin Knox-Johnston, donated his prize money to Crowhurst's widow, Clare, and his four children, who were left to face the press and deal with the financial burden alone.

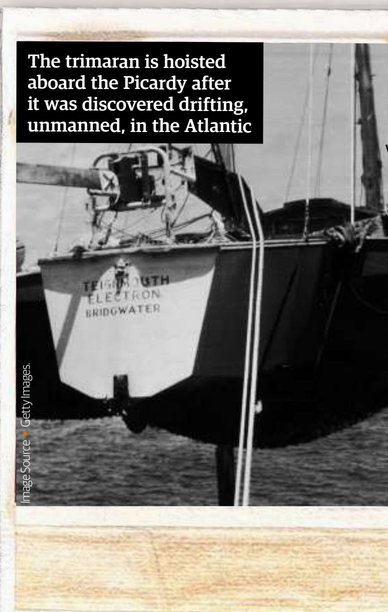

The trimaran is hoisted aboard the Picardy after it was discovered drifting, unmanned, in the Atlantic

Image Source • Getty Images

Donald proudly poses with the family he left behind; wife Clare and children Rachel, Simon, Roger and James

Image Source • Getty Images

DISAPPEARANCE 03

MAJOR GLENN MILLER

Date went missing
15 December 1944

Towards the end of World War II, a single-engine Noorduyn Norseman aircraft left England, bound for Paris. Onboard were two Air Force officers and the bandleader Glenn Miller, who was heading to France to organise a concert for the troops. But, somewhere over the Channel, the plane vanished.

There had been no distress signal and no wreckage recovered, so a satisfactory conclusion to the mystery seemed highly unlikely. However, two theories have claimed to hold the answer.

On that fateful day, a formation of Lancaster bombers returning from an aborted raid on Germany had been ordered to jettison their bombs over the Channel before landing. One navigator claimed that a Noorduyn Norseman plane had been accidentally hit during the procedure. Was this the aircraft carrying Miller?

This seemed to be the likely explanation, until the notebooks of a plane spotter appeared on TV show *The Antiques Roadshow*. Richard Anderton was 17 when he spotted Miller's plane overhead in Reading, proving it took a major diversion on its way to Paris, and making it impossible for the plane to have been in the bomb jettison zone. It's now believed the plane was flying low due to poor visibility, and crashed when its fuel lines froze.

ON TH
RESS.
REPO
IMITE
FORE
SPAPER
mentary Corr

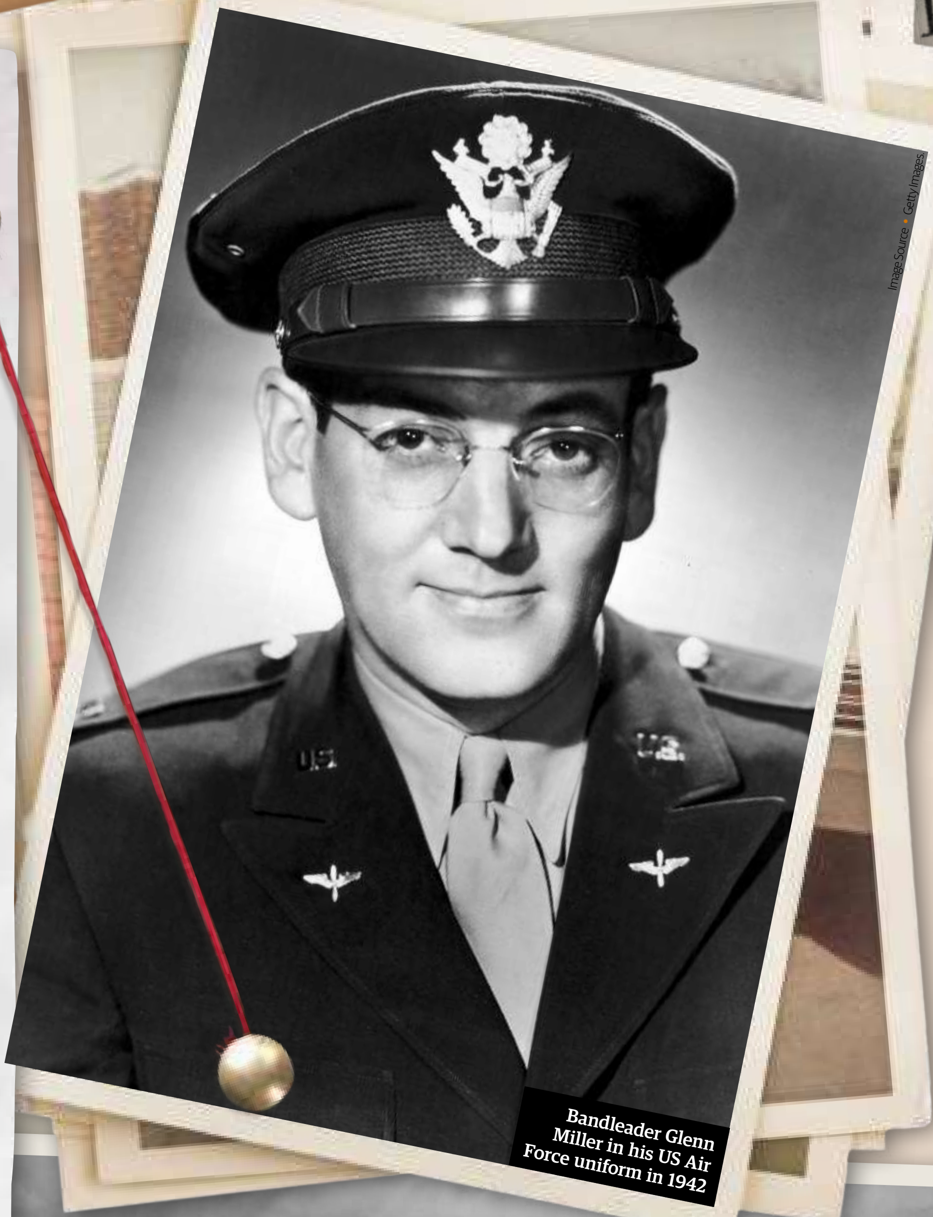


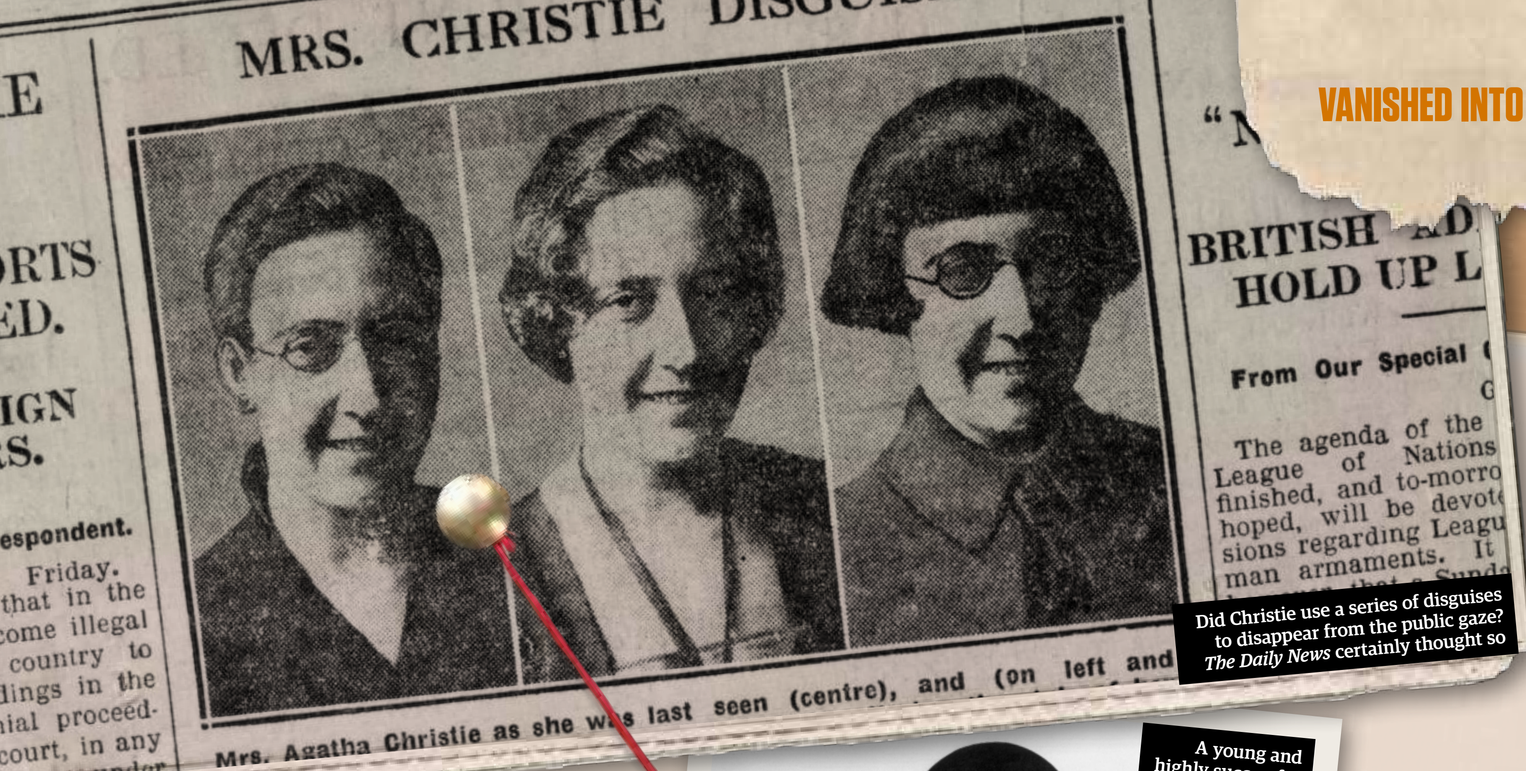
Image Source • Getty Images

Bandleader Glenn Miller in his US Air Force uniform in 1942

Image Source Public Domain; U.S. Federal Government.

35199
16A-00-56.
Image Source • Getty Images

A Noorduyn Norseman, similar to the plane transporting Miller on his last flight



MRS. CHRISTIE DISGUI

E

ORTS
ED.

IGN
S.

espondent.

Friday.
that in the
come illegal
country to
dings in the
nial proceed-
court, in any

Mrs. Agatha Christie as she was last seen (centre), and (on left and

"N

BRITISH AD
HOLD UP L

From Our Special C
G

The agenda of the
League of Nations
finished, and to-morro
hoped, will be devote
sions regarding Leagu
man armaments. It

Did Christie use a series of disguises to disappear from the public gaze? *The Daily News* certainly thought so

DISAPPEARANCE 04

AGATHA CHRISTIE

Date went missing
3-14 December 1926

On a cold evening in early December, during the height of her fame, writer Agatha Christie kissed her daughter goodnight, walked out of her Berkshire home and drove off into the night, only to disappear in a puff of exhaust smoke. For 11 days, the police and public searched in vain until, just as suddenly, she reappeared.

The disappearance instigated one of the largest manhunts ever, involving more than 1,000 police officers, bloodhounds, aeroplanes and hundreds of volunteers. Her car was found partly covered in bushes near Guildford, abandoned by a spring. The car offered up little information except that she had left her fur coat and driver's licence behind, and the headlights were still on.

Home Secretary William Joynson-Hicks called upon Sir Arthur Conan Doyle and fellow crime writer Dorothy L Sayers to help who, in turn, brought in mediums, but to no avail. However, on 14 December, a musician working in the Old Swan Hotel, Harrogate, called the police, claiming to have spotted Agatha dancing in the ballroom. The lady of mystery had been found.

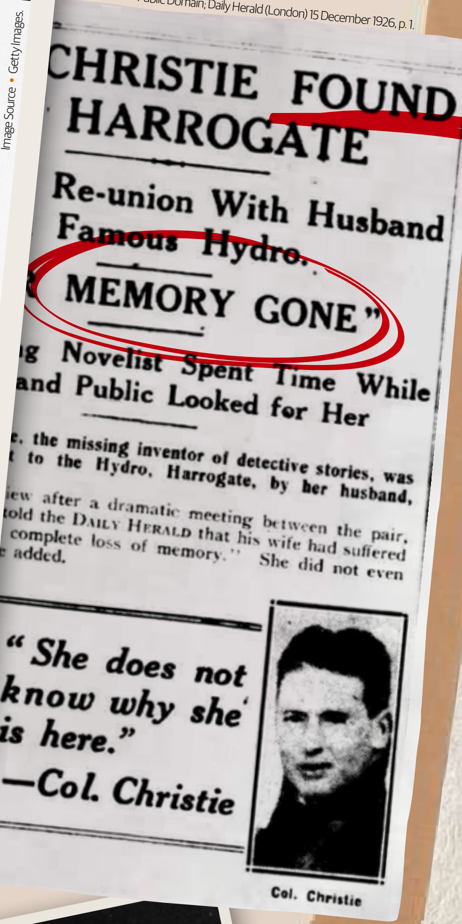
But why did she do it? Although a few cynics believed at the time that this was a wild publicity stunt for her latest book, it is most commonly thought that she was suffering from psychogenic amnesia following the recent death of her beloved mother and the discovery that her husband, Archie, had been having an affair with a secretary, Nancy Neele. Her overwhelming grief had inadvertently placed her at the centre of her very own mystery.

A young and highly successful Agatha Christie

Image Source • Getty Images.

"A FEW CYNICS BELIEVED AT THE TIME THAT THIS WAS A WILD PUBLICITY STUNT FOR HER LATEST BOOK"

Image Source • Public Domain; Daily Herald (London) 15 December 1926, p. 1.



CHRISTIE FOUND
HARROGATE

Re-union With Husband
Famous Hydro.

MEMORY GONE"

g Novelist Spent Time While
and Public Looked for Her

. the missing inventor of detective stories, was
to the Hydro, Harrogate, by her husband,

iew after a dramatic meeting between the pair,
told the DAILY HERALD that his wife had suffered
complete loss of memory." She did not even
added.

" She does not know why she is here."
—Col. Christie

Col. Christie

Image Source • Public Domain.

WEATHER
SHEA
32

Image Source • Getty Images

FBI agents search for the remains of Hoffa in Michigan after receiving a tip from former mobster Tony Zerilli in 2003

"IT WAS THOUGHT HOFFA'S CORPSE HAD BEEN GROUND UP AND THROWN INTO THE FLORIDA SWAMPS"

DISAPPEARANCE 05

JAMES RIDDLE HOFFA

Date went missing
30 July 1975

Was Hoffa gunned down by Frank 'The Irishman' Sheeran in this Detroit house?

Jimmy Hoffa was barely out of his teens when he led his first strike, and from this point on he shared his life with mobsters, racketeers, the Mafia and gambling moguls. Through threats of violence, dubious payoffs, kickbacks and sweetheart deals, he rose up through the ranks of America's largest union, the International Brotherhood of Teamsters, ultimately becoming its president in the 1950s.

President Kennedy's brother, Robert, loathed the union leader, a hatred that led to the formation of the Justice Department's 'Get Hoffa Squad', which attempted to charge him with everything from extortion to jury tampering, resulting in an eight-year sentence. Later that year, he was also convicted of fraud and received a further five years. After endless appeals, he was eventually locked up in 1967. Hoffa intended to run the union from prison through its acting president, Frank Fitzsimmons, but Fitzsimmons solidified his hold on the role. When Hoffa's sentence was commuted and he was released in 1971, he attempted to claw back some of his power, but this proved to be difficult. Despite support from President Nixon, who'd since come into power, Hoffa struggled to regain his former position due to a term of his release from prison, which barred him from holding any union office for ten years. Furious and humiliated, he began conducting business with some dangerous individuals, making numerous enemies as he went.

On 30 July 1975, Hoffa arranged to have lunch with a group of syndicate thugs, but when they failed to show he phoned his wife at approximately 2.15pm, then waited in his car outside the restaurant. When he didn't come home that night, she called the police. The following day, the car was discovered, unlocked, but Hoffa had vanished.

The FBI were quickly called in and, over the next ten years, 200 G-Men (slang for 'government men') were assigned to Hoffa's disappearance. Everyone was of the opinion that he'd been murdered but no-one could fathom out who had done the deed or where the body had been hidden. Theories were raised and duly filed. At one point it was thought that contract killer Charles Allen had ground up his corpse into little pieces and had it thrown in the Florida swamps. Others claimed he'd been killed by hitman Donald 'Tony The Greek' Frankos and his body buried under the Giants Stadium. In 2004, Hoffa's one-time friend, Frank 'the Irishman' Sheeran, gave a deathbed confession, pointing to a home in the suburbs of Detroit as the murder scene. More than 16,000 pages of reports were written up but whittling down the never-ending list of suspects proved impossible – after all, he'd been an incredibly unpopular individual on both sides of the law.

In 1982, Jimmy Hoffa was declared legally dead but, without a body, we'll never know if he really is.

39847007348
POLAROID

Image Source • Getty Images

James R Hoffa in 1957, testifying before the Senate Rackets Committee in Washington, DC

Image Source • Getty Images

Raoul Gustaf Wallenberg, the Swedish architect, businessman, diplomat and brave humanitarian

DISAPPEARANCE 06

RAOUL GUSTAF WALLENBERG

Date went missing
17 January 1945

Raoul Wallenberg's youth set him up for the adventures and high drama he was to face in later life and gave him the skills that he needed to accomplish the outstanding feats of bravery that he would ultimately be remembered for. Born in Sweden in 1912 into a wealthy academic family, young Wallenberg was given an excellent education. He travelled extensively, before returning to Stockholm where he began working for the Central European Trading Company. By 1942, he was its International Director, undertaking frequent trips to Germany, France and Hungary.

During this time, Wallenberg witnessed first-hand the behaviour of the Nazi regime and the atrocities befalling the Hungarian Jews, painfully aware of his own 1/16th Jewish ancestry.

When US President Franklin D Roosevelt created the War Refuge Board to deal with the humanitarian crisis, they began searching for someone who could oversee a rescue mission for the trapped Jews. By June 1944, they had chosen Wallenberg to organise the program - with his intimate knowledge of the area, business contacts and excellent language skills, he was the perfect man for the job.

'Protective passports' (Schutz-Pass) were secretly developed and issued to those Jews most at risk, declaring them to be Swedish, thereby avoiding deportation and the wearing of yellow stars. Safe houses were rented throughout Budapest. Wallenberg had organised and executed an audacious plan that saved up to 100,000 Jewish lives, but it also painted a target on his back.

Wallenberg continually changed locations to avoid apprehension but eventually he was tracked down. On 17 January 1945, he was called to the Soviet's Deputy Commissar for Defence. He was never officially seen again, although it's known that he was transferred to Lubyanka Prison, cell 123.

Various people claimed to have seen him or heard his voice from behind closed doors, but the evidence is little more than hearsay. The Soviet-controlled Hungarian radio declared that he had been murdered in 1945, while, in 1957, the Soviet government claimed that he had died of natural causes in his cell back in 1947. An investigation carried out in 1991 concluded that Wallenberg had been poisoned while under lock and key in the infamous Lubyanka. Contradictory testimony said he had been shot.

Following Stalin's death in 1953, thousands of prisoners-of-war were released, and witness accounts surfaced, describing encounters with Wallenberg in Moscow prisons; a number of former prisoners have claimed to have seen him long after his supposed death. Talk of a Swedish diplomat living within the walls of a Soviet prison still persist. Two independent witnesses reported seeing him behind bars as recently as 1987.

In October 2016, Raoul Wallenberg was finally declared dead. The Swedish tax agency recorded the date of his passing as 31 July 1952. It's as good a date as any, but whether it's correct… who knows?

> **"WALLENBERG'S PLAN HAD SAVED UP TO 100,000 JEWISH LIVES… BUT IT ALSO PAINTED A TARGET ON HIS BACK"**

Did Wallenberg end his days locked away behind one of these steel cell doors at Lubyanka Prison?

Image Source • Getty Images

Wallenberg's half-sister, Nina Lagergren, holds a photograph of her beloved brother

Image Source • Getty Images

THE BERMUDA TRIANGLE

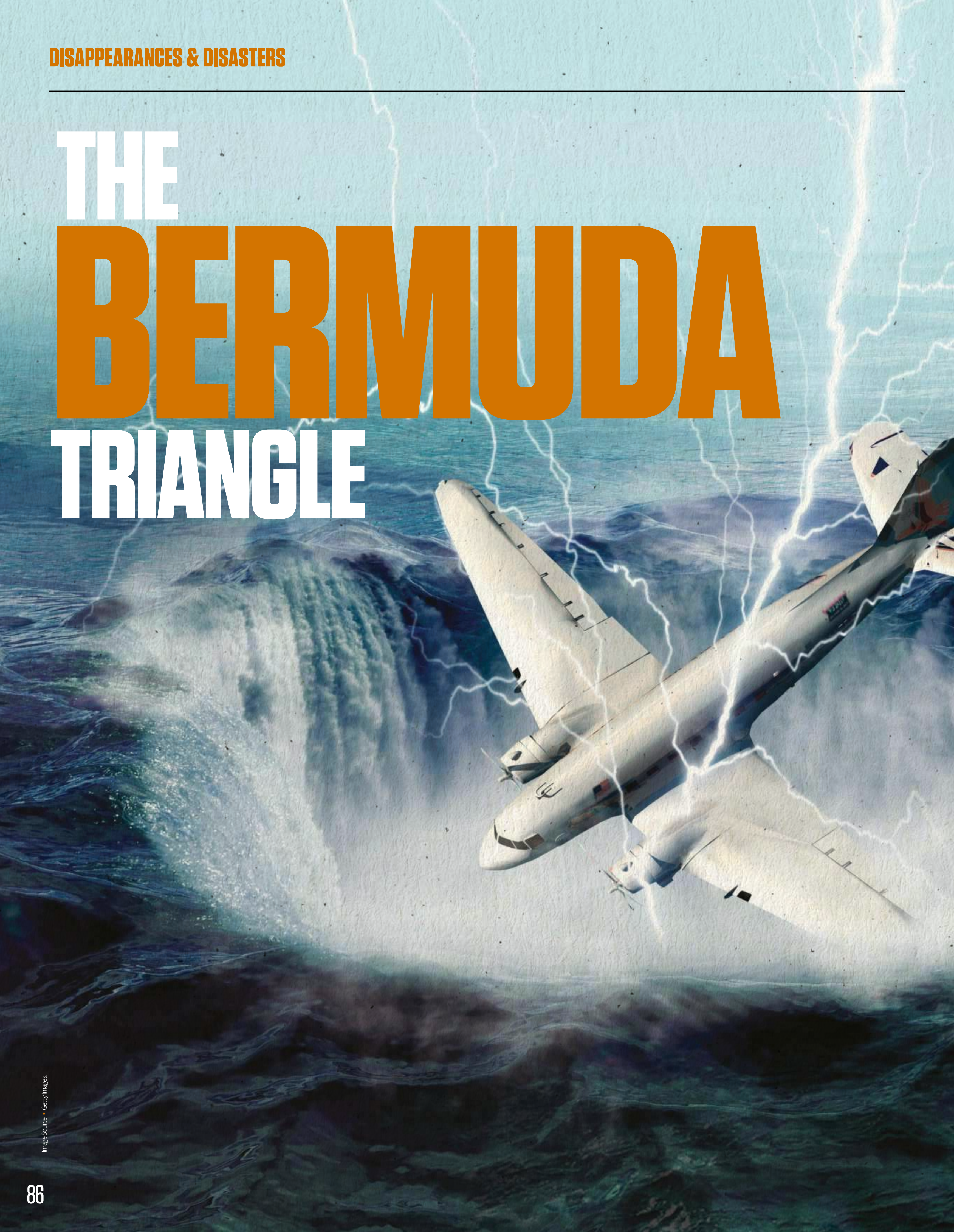


Image Source • Getty Images.

Discover the truths behind the greatest mystery of air and sea – the terrifying Bermuda Triangle

WRITTEN BY **ALICE BARNES-BROWN**

Countless unfortunate ships and aeroplanes have disappeared into the depths of this sinister ocean, never to be seen again - or so it's said. The Bermuda Triangle is one of the world's best-known legends, and strikes fear into the hearts of travellers, who believe that if they try to traverse this treacherous area, they, too, may vanish without a trace.

The Triangle's exact position seems to vary with every report, but its corners are generally believed to be at Miami, Puerto Rico and the more northerly archipelago of Bermuda, covering an area of around a million square miles (depending on the location of the vertices). Some people might find it worrying that the region is also one of the world's busiest shipping and flight paths, with boats and planes making routine journeys to the Caribbean, south-eastern USA, and Central and South America every day.

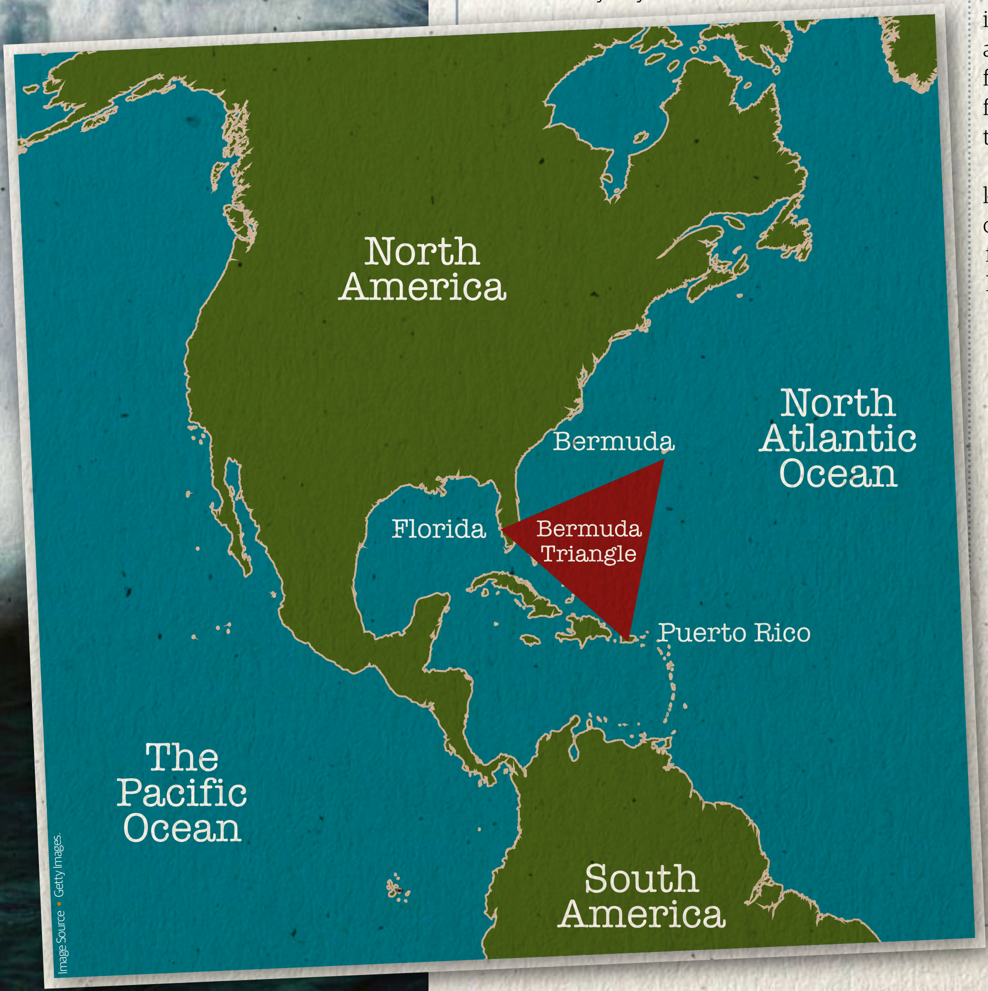


Image Source • Getty Images.

Could it be that this area of ocean is subject to paranormal - or even alien - activity? Perhaps there's something eerie lurking in the waters, or something humans cannot comprehend going on under the sea? Or could the disappearances have a more rational explanation, such as pirates prowling the area, or an unusually high number of freak weather occurrences, such as hurricanes? Either way, debate continues to rage on as to whether the Bermuda Triangle really is a mystery at all. While a number of ships and planes have disappeared without a trace within its parameters, scientists and investigators have strived to prove that there's a logical explanation for every single one.

> "COULD THIS AREA OF OCEAN BE SUBJECT TO PARANORMAL – OR EVEN ALIEN – ACTIVITY?"

The intrigue surrounding the Bermuda Triangle area has its origins in the early exploration of the Americas by Christopher Columbus. His ship's logs apparently record a number of inexplicable incidents in the area - from compass anomalies directing him the wrong way, to fires falling into the sea, and even an unusual flickering light on the horizon, which he compared to a candle.

But Bermuda Triangle mania didn't really kick off until the 20th century, when the trauma of two World Wars had everyone on high alert for suspicious ship and plane disappearances. Newspaper stories about the then-unnamed Bermuda Triangle started gaining traction in the 1950s, when George X Sand brought the missing planes of the US Navy Flight 19 to the public eye in *Fate* magazine. As writers continued to unearth more stories of unexplained disappearances and tragic accidents, the legend became more popular.

The term 'Bermuda Triangle' was eventually coined by Vincent Gaddis in his February 1964 article for *Argosy* magazine, which highlighted a number of mysterious accidents in the area, dating all the way back to the 19th century. He may have omitted important details about stormy weather, mechanical faults and human error, but that didn't stop Gaddis' story spreading like wildfire. Since then, numerous books, articles and TV documentaries have sought to explain what might be going on in the Bermuda Triangle, but no theory has been conclusively proven. It remains to be seen whether there is a 'Bermuda Triangle' mystery to be solved at all.

THE STRANGE FATE OF FLIGHT 19

How a routine training flight ended in confusion – and ultimately disaster

Image Source • Flickr, SDASM Archives

A Martin PBM Mariner seaplane disappeared while searching for Flight 19

Just after 2pm on 5 December 1945, a convoy of five US Avenger planes set out from their base in Fort Lauderdale, Florida, to practise bombing submarine targets. Their route would take them to the Bahamas, then over the sea, before returning home. All was going well until around 3.40pm, when the pilot leading the convoy, Commander Charles Taylor, became confused and thought he was in the wrong location.

He believed his convoy had accidentally made a wrong turn somewhere and ended up in the Florida Keys, south of Fort Lauderdale, rather than due east towards the Bahamas as planned. Taylor was instructed to head north - if he was 100% sure he was in the Florida Keys, he would theoretically make landfall eventually. However, not everybody in the convoy was convinced - one trainee pilot was heard to remark on the radio that if they turned west, they would be able to return to Florida.

The trainee was right. The flight was perfectly on course, and was near the Bahamas - not the Florida Keys. Nonetheless, the convoy followed Taylor's instruction and turned north, taking them further out to sea. As land had still not been sighted, Taylor grew more and more worried, but did not change course. The planes kept flying until nightfall, and the last transmission from the convoy was received at 7.04pm. The planes were running low on fuel and the weather was turning - not a lot of hope was held out for their safe return.

Less than half an hour later, two rescue seaplanes were sent to search for Flight 19. Heavily laden with fuel to prepare them for hours

> "AS LAND HAD STILL NOT BEEN SIGHTED, COMMANDER TAYLOR GREW WORRIED BUT DID NOT CHANGE COURSE"

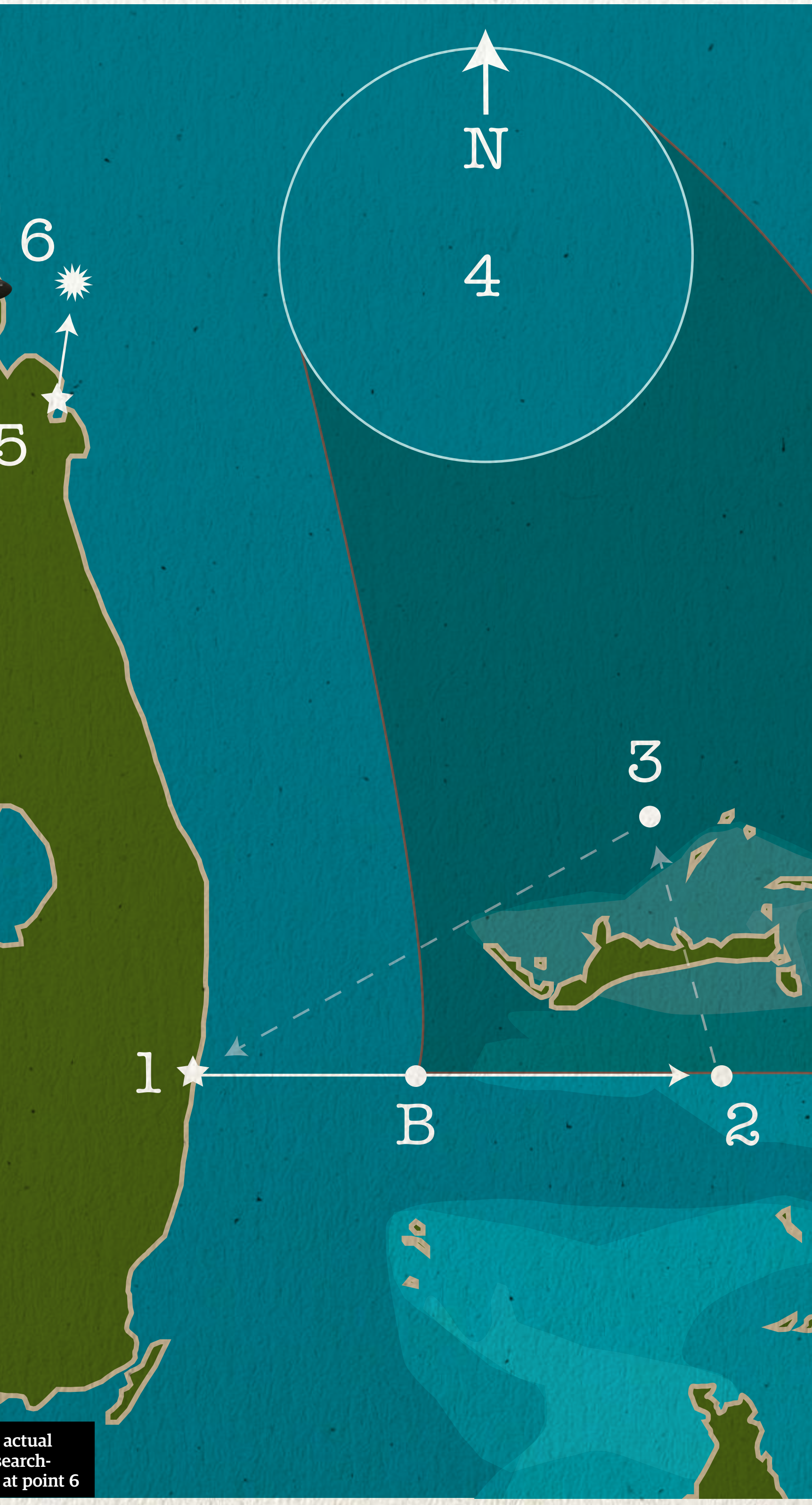
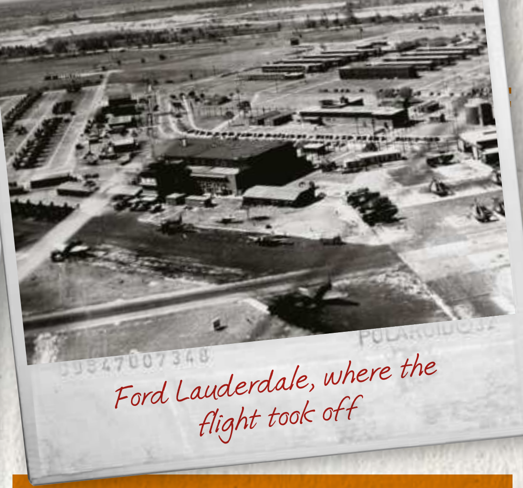


Image Source • Anynobody, CC BY-SA 3.0.

The planned flightpath - and actual trajectory - of Flight 19. The search-and-rescue seaplane was lost at point 6

The lost squadron of Flight 19



Ford Lauderdale, where the flight took off

"ONE OF THE SEAPLANES SENT TO SEARCH FOR FLIGHT 19 DISAPPEARED OFF THE RADAR SOON AFTER TAKEOFF"

of searching, the seaplanes went off to do their duty. However, one of the seaplanes disappeared off the radar soon after takeoff. Then, after 9pm, a cargo ship reported seeing a huge fire leaping 100 feet into the air near the seaplane's last-known position.

We may never know for sure what happened to Flight 19 or its ill-fated rescuers, as wreckage from either mission has never been found. The most widely accepted theory is that Flight 19 had lost its position, deviated from the planned route, and kept flying northwards until the planes ran out of fuel - not once sighting land. Some feel Commander Charles Taylor was unfairly blamed for the confusion, while others maintain that his stubbornness and unwillingness to change course and head west caused the deaths of the entire Flight 19 crew.

As for the downed seaplane, that remains even more of a mystery. All the pre-flight checks had shown that there was nothing wrong with the plane before it took off. However, because they carried so much fuel on board, they were known as 'flying gas tanks'. The slightest spark could set them ablaze, killing any on board in an instant. It's therefore commonly believed that the search-and-rescue seaplane exploded mid-air.

The Bermuda Triangle had claimed 27 lives in just a few hours.

Image Source • Alamy.

Marine engineer Graham Hawkes found five Avenger plane wrecks on the sea bed in 1991 - but they were never confirmed to be Flight 19

Bermuda Triangle conspiracies

The site's seemingly deadly power has led to a number of explanations being proposed – some more realistic than others

GULF STREAM

It's a well-known fact that warm water from the Caribbean drifts up the North American coast towards Europe, forming a very strong current – like a river within the Atlantic Ocean. The Bermuda Triangle lies at one of the most intense parts of the Stream, and it's often been posited that stricken planes and ships could be quickly carried away by the current, never to be seen again.

METHANE BUBBLES

Like passing gas in a bath, this theory suggests that methane bubbles escaping from cracks in the sea floor lead to the sudden frothing up of the ocean, causing ships to sink as the water can no longer support their weight. The theory also states that methane-related explosions may cause planes to crash. However, scientific studies have shown there's not an unusually high amount of methane gas in the area, and nor would any bubbles actually sink a well-built ship.

WEIRD WEATHER

Hurricanes and cyclones plague the Bermuda Triangle area multiple times a year. These storms are so strong and powerful that they pose a high risk to ships and small aircraft travelling near Florida and the Caribbean. You might also see terrifying waterspouts in the area – this is when a tornado sucks up water from the sea, taking it (and any ships or planes that may lie in its path) thousands of feet into the sky. It's certainly one of the most plausible theories, but does it explain all the disappearances?

COMPASS MISCALIBRATION

In an age of GPS and satellite navigation, it's less and less likely that planes and ships will get lost. However, this interesting idea may explain the Triangle's untenable power. Since the magnetic north (what compasses use to show where north is) is not actually in the same place as the geographic North Pole, this difference needs to be factored into account. However, in some places – like the Bermuda Triangle – magnetic and geographic north are the same. Some say this confusion is responsible for the loss of ships and planes in the area.

HUMAN ERROR

As in the case of Flight 19 – and so many other tragic accidents throughout history – we cannot rule out simple human error. Not only is it relatively easy to get lost in the area (as there are so many islands that look alike), pilots and ship's captains can and do take incorrect actions when pressured by stressful situations or bad weather. It might be the case that the Bermuda Triangle disappearances are not mysterious at all – just the result of unfortunate human decisions.

Images © Alamy, Flickr; SDASM Archives, Creative Commons; Anynobody CC BY-SA 3.0

STAR TIGER VANISHES

Was the Triangle to blame for the disappearance of this passenger plane?

When it took off from Portugal on 28 January 1948, none of the excited holidaymakers aboard could imagine the horrors they would face a few hours later when the BSAA Star Tiger disappeared without a trace over the Atlantic.

The journey – operated by British South American Airlines, a company with a sketchy safety record at best – would take them from Lisbon to the Azores, before crossing the Atlantic to Bermuda. This stretch was more than 2,000 miles, and back then it was the longest non-stop journey in the world. It was risky. Aircraft were operating at the very limits of their range.

After encountering some engine trouble at Lisbon, the Star Tiger took off, and made its way to the Azores. When it landed there, the 25 passengers and six crew members were stranded for a full day due to bad weather. But with the clock ticking and the weather showing little signs of letting up, the Star Tiger took off on the afternoon of 29 January to make the transatlantic crossing. They were to be escorted by another BSAA plane, who would fly ahead and radio weather information back to the Star Tiger.

Flying at no more than 2,000 feet (to avoid the worst winds, and to keep the plane warm), the journey was more than ten hours long. Towards the end, both planes learned they had been blown off course. Nonetheless, at 4.11am on 30 January, the escort plane landed safely in Bermuda. But where was the Star Tiger?

The US Air Force spent five days searching, but to no avail. The investigation concluded that "what happened in this case will never be known and the fate of Star Tiger must remain an unsolved mystery", but there are a number of factors which could have led to its tragic fate: strong winds, engine trouble, getting lost in a storm, or simply running out of fuel.

Image Source • Public Domain; Imperial War Museums

Beloved World War II hero Sir Arthur Coningham was one of the passengers who went down with the Star Tiger

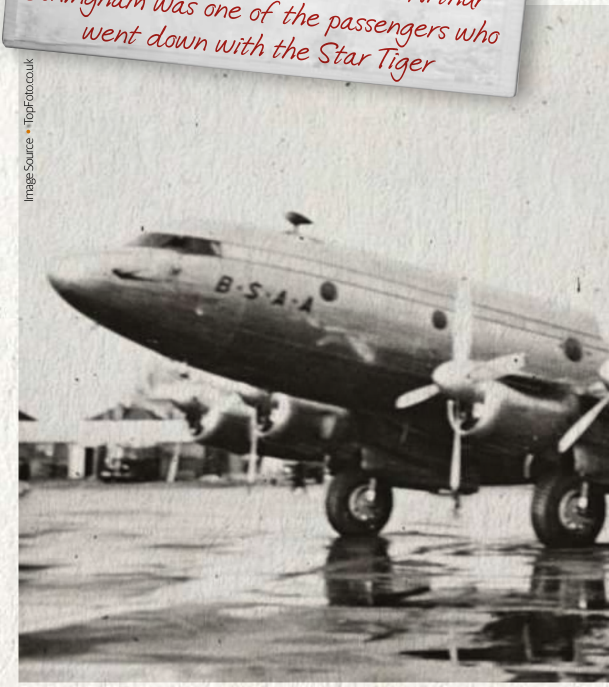


Image Source • TopFoto.co.uk

DC-3 DISAPPEARS

What happened to this passenger jet, which went down just a few miles away from home?

The Douglas DC-3 is not a plane known for malfunctioning. Even now, 80 years later, some remain in use. That's what makes this disappearance all the more interesting.

En route to Miami from Puerto Rico on 28 December 1948, contact with this aircraft was lost just 20 minutes before its scheduled landing.

The pilot had reported a problem with the landing gear before leaving Puerto Rico, and the plane's battery was running low. The plane took off without undergoing repairs, which may have been a fatal decision. Nonetheless, when the pilot believed he was only 50 miles away from Miami, he radioed air traffic control to say they were only 20 minutes away.

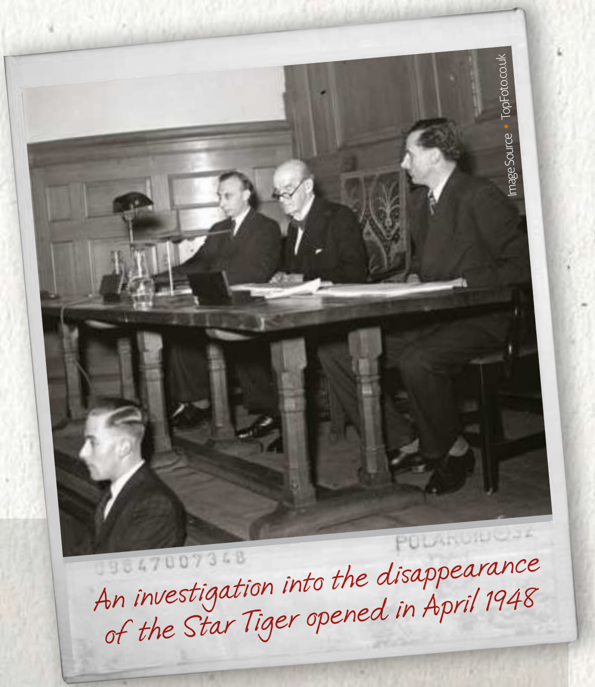
Oddly, this transmission was received by New Orleans, not Miami, controllers. They passed the message on to the DC-3's destination, but the aircraft was never seen nor heard from again. Could the pilot have got his location wrong? Did the landing gear fail? We may never know the answers to these questions – no trace of the DC-3 or the 32 people onboard has ever been found.

The classic Douglas DC-3 is a remarkably reliable aircraft for its time, making this disappearance highly unusual

GOODYEAR
LIFEGUARD TIRES
AMERICAN
Flagship Skysleeper
U.S. MAIL AM 4-27 AIR EXPRESS
Image Source • Public Domain; U.S. Farm Security Administration / Office of War

THE TRAGEDY OF THE USS CYCLOPS

As the greatest non-combat tragedy in US Navy history, the sinking of the Cyclops continues to intrigue Bermuda Triangle believers



An investigation into the disappearance of the Star Tiger opened in April 1948

Image Source • TopFoto.co.uk

One of the last known photographs of the Star Tiger

The USS Cyclops, a state-of-the-art ship, vanished without a trace in the Atlantic ocean in 1918 with the loss of more than 300 lives, making it the biggest non-combat tragedy in US Navy history. There was no distress call and no eyewitnesses to help explain what happened to this massive vessel.

Built in 1910 and commissioned by the US Navy for World War I service in 1917, the USS Cyclops was capable of carrying up to 8,000 tons of cargo. Mostly she carried raw materials, such as coal and metal ores, and kept close to the US East Coast. However, in January 1918, she was assigned a dangerous mission - to travel to Brazil and refuel British ships based in the South Atlantic.

On her way back from Rio, she was charged with carrying thousands of tons of manganese ore, which was used to build weapons of war. The USS Cyclops set out on 16 February for Baltimore, with one scheduled stop in Salvador a few days later. However, when she left Brazil, the ship was getting dangerously low in the water - she was overloaded by about 3,000 tons - yet the authorities had apparently deemed her safe to travel as the cargo had been loaded and stored correctly. She also had a problem with one of her engines, but the USS Cyclops was still seaworthy, and it was recommended that she travel back home for repairs.

> **"MAYBE THE CREW STAGED A MUTINY AGAINST THE LESS-THAN-POPULAR CAPTAIN MORLEY"**

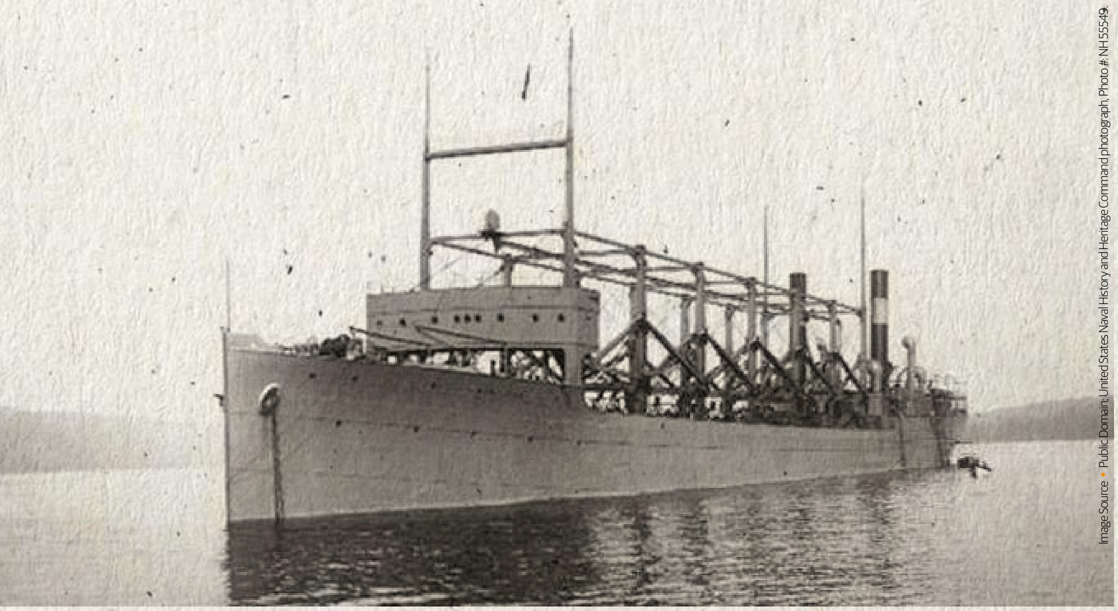
So, the Cyclops sailed off into the Atlantic... and never came home. She wasn't due in Baltimore until 13 March, but when she failed to arrive, the alarm was raised. After a fruitless search, she and her crew were declared officially lost on 1 June 1918.

Theories abound as to what happened to the Cyclops. One of the most common is that combined with a faulty engine and overloading, she could have suffered catastrophic structural failure when faced with one of the Bermuda Triangle's legendary storms. Or, because her disappearance was during wartime and she was carrying military cargo, she may have been sunk by the Germans, although Germany has always denied any knowledge of her fate.

Another interesting idea posits that the crew staged a mutiny against the less-than-popular Captain Worley, a German-born captain who had quite the temper. Known to inflict brutal punishments on crewmen for the most trivial of mishaps, he stalked the decks in his underwear, and frequently got inexperienced men to perform complex tasks. Was the loss of USS Cyclops due to mutiny?

Or, was it something even more sinister? It's often suggested that Captain Worley held sympathies with his country of birth, and may have conspired to hand the valuable ship over to Germany. However, no evidence of any such plot has ever been uncovered.

Whatever the truth might be, the Cyclops' fate is yet another unsolved mystery.

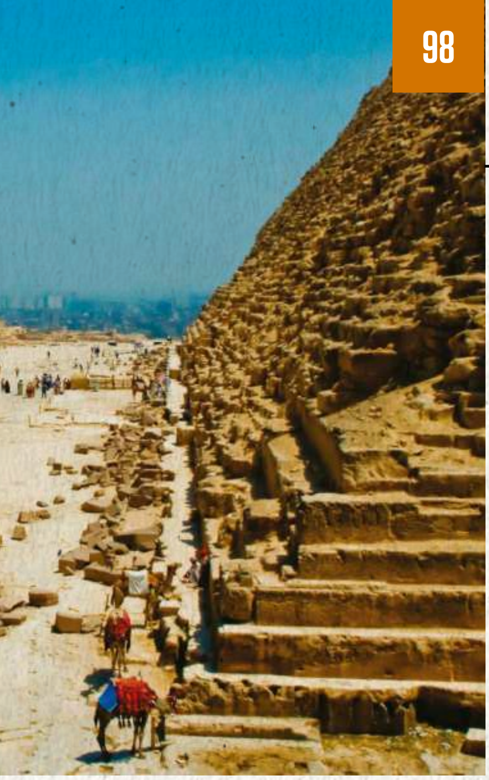


The coal-carrying USS Cyclops, cruising in the Hudson River in 1911

Image Source • Public Domain, United States Naval History and Heritage Command photograph. Photo # NH 55549

Images © Wikimedia Commons; Public Domain . Creative Commons; RuthAS, CC BY-SA 3.0

105
Page 116
115
94
108



ANCIENT & MYTHICAL

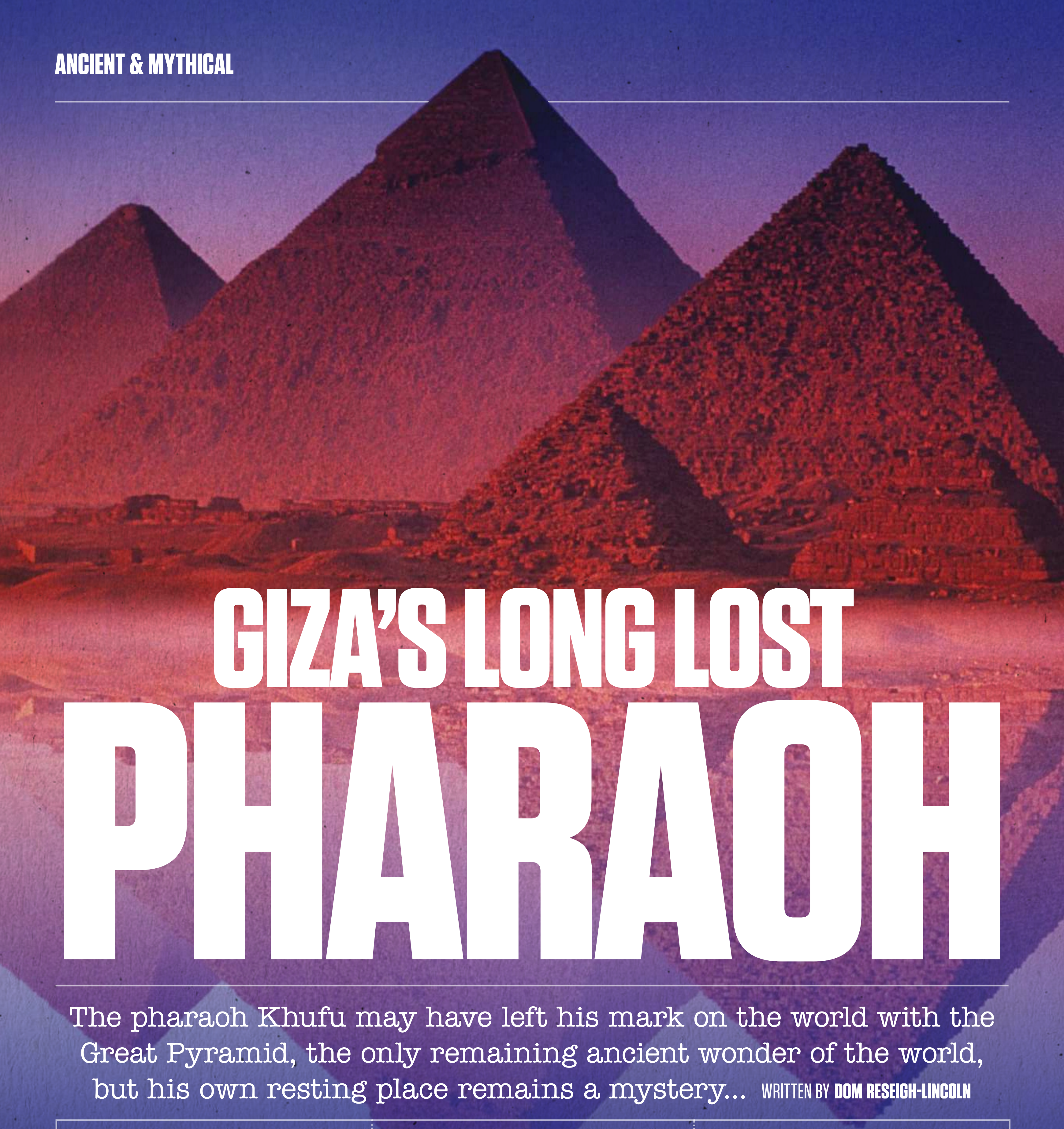
Has the answer to these mysteries been lost through the annals of time?

94 **GIZA'S LONG LOST PHAROAH**
The resting place of Khufu of Ancient Egypt continues to elude historians

100 **THE SECRETS OF STONEHENGE**
Solstices, Druids and the dead: why does Stonehenge exist?

108 **UNEARTHING THE MOAI OF EASTER ISLAND**
The iconic stone statues hold the secrets of Easter Island's cultural history

114 **LOST CITIES**
Separating fact from fiction about history's mythical cities



GIZA'S LONG LOST PHARAOH

The pharaoh Khufu may have left his mark on the world with the Great Pyramid, the only remaining ancient wonder of the world, but his own resting place remains a mystery…

WRITTEN BY **DOM RESEIGH-LINCOLN**

The Great Pyramid, a symbol of Ancient Egyptian engineering and ingenuity, remains one of the world's most domineering structures. Standing 146.5 metres tall, it towers above the other two pyramids of Giza, the Great Sphinx and the remains of the Necropolis, a stark reminder of just how powerful the empire of the Ancient Egyptians truly was.

And yet, we know very little about the man who had such an awe-inspiring symbol of power erected. The life of King Khufu has remained a subject of great fascination for historians and archaeologists for decades – most notably for the fact that the Old Kingdom monarch's remains are nowhere to be found. So what happened to the great monarch of Ancient Egyptians? And how can the mysteries of the Great Pyramid be unlocked?

The son of King Sneferu, the originator of the Fourth Dynasty, Khufu remains a figure of deep historical mystery. Hailing from an era of Egyptian rule known as the Old Kingdom, he was one of many pharaohs whose exploits have become muddled with the passage of time. As a result, much of the information we have is debated to this day, but many historians believe he was born in around 2609 BCE. His full name was 'Khnum-

Image Source • Getty Images

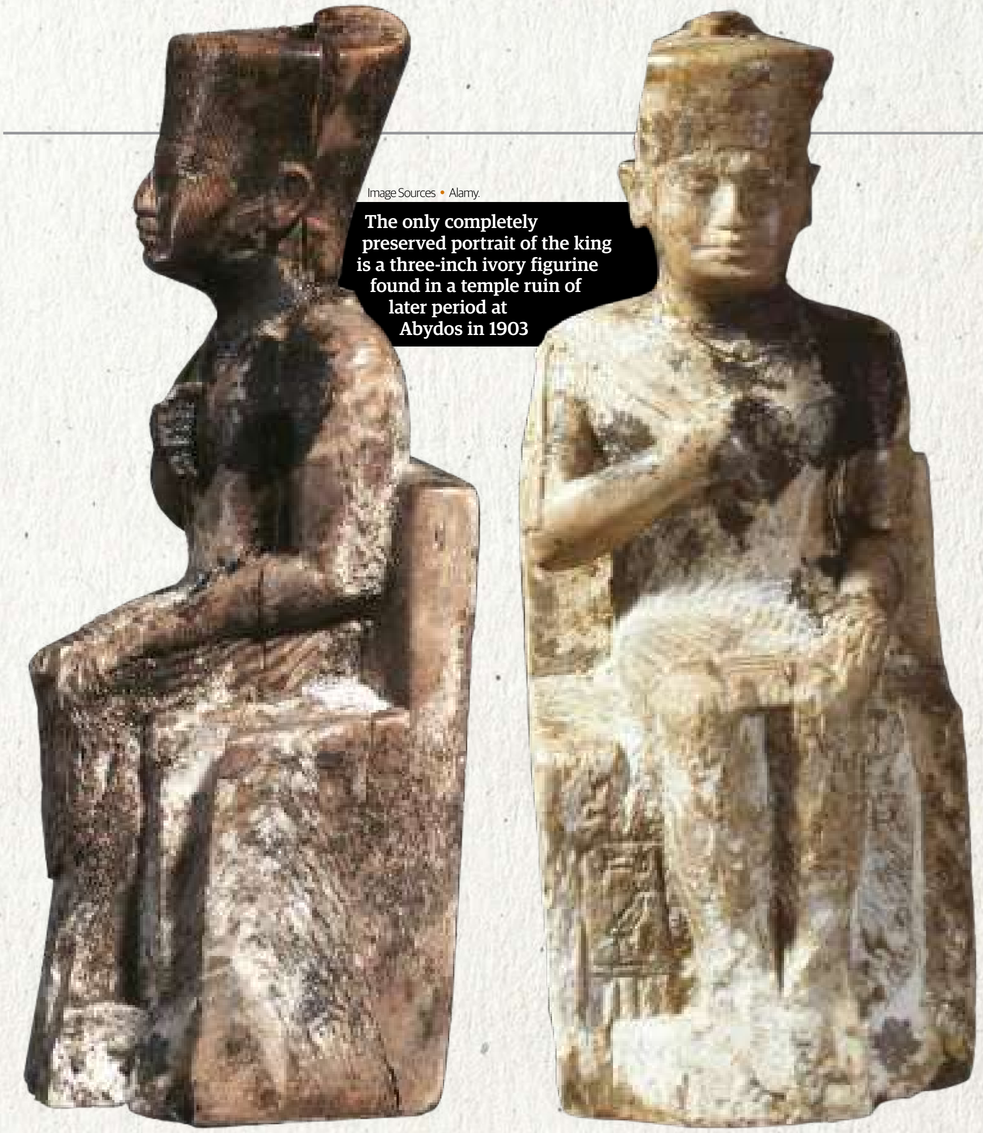


Image Sources • Alamy.

The only completely preserved portrait of the king is a three-inch ivory figurine found in a temple ruin of later period at Abydos in 1903

Granite slab bearing the name of Khufu, from the British Museum collection

Image Sources • British Museum, CC BY-SA 3.0.

Image Source • Bradipus CC BY-SA 3.0.

The 'solar ship', recovered from the foot of the Great Pyramid, was mostly in

Khufwy', which means '[the god] Khnum protect me' and he came to the throne when he was in his twenties, following the death of his father.

Almost immediately, Khufu began orchestrating the construction of what would become the Great Pyramid. His father had also built a number of pyramids in his lifetime, but Khufu was determined to step out of his father's dynasty-founding shadow and make his true mark on the world. His reign lasted between 26 and 46 years, so considering the Great Pyramid took around 10 to 20 years to construct, it was a project that would define his rule.

Accounts differ as to how Khufu constructed the grand tomb. The Greek historian Herodotus believed Khufu built the entire structure using indentured slaves. However, Herodotus' version of the pharaoh comes to a questionably negative conclusion, presenting Khufu as a cruel despot of a leader who sold his own daughter into prostitution. The Westcar Papyrus also presents a different view of Khufu; in this ancient document, the Fourth Dynasty ruler was a pious man, one who treated his subjects with kindness and embraced the nature of Ancient Egyptian spirituality. As such, this document presents Khufu as a man who hired workers to construct the pyramid, although such a project would have taken a significant blow to the royal coffers.

As with so many areas related to Khufu, the nature of his political dealings are patchwork in nature - however, a number of inscriptions and papyri have revealed that the monarch was often preoccupied with trade and the acquisition of goods. At the Wadi Maghareh in Sinai, a rock inscription depicts Khufu with the double crown, a sign of his powerful status in the region. The region was known for its turquoise and copper mines, two materials popular in Egyptian arts and construction. Khufu also sent envoys to trade with the Mediterranean city of Byblos, looking to acquire Lebanese cedar wood for shipbuilding and more. He was a builder king who saw currency in resources and raw materials.

An ivory head statue thought to depict Khufu, now on display in Germany

And so Khufu would begin construction on the structure that has become the symbol of the entire breadth of the Ancient Egyptians, his crowning achievement as a ruler: the Great Pyramid. As mentioned earlier, the structure was quite the undertaking not just for the fact it took between one and two decades to build - or that a staggering 2,300,000 stone blocks were used to create it - but also for the jump in engineering prowess between the pharaohs and builders of the Third Dynasty and those of Khufu and the Fourth. Prior to Sneferu, the kings of Egypt often built small, flat-topped tombs to house their bodies, but pharaohs such as Khufu had a far bigger titan of a structure in mind.

Records suggest that Khufu's builders, whether enslaved or paid, worked on the Great Pyramid some time between 2589 and 2504 BCE, heaving over 2 million stone blocks weighing at least two tons each. The base of the pyramid covers 55,000 square metres with each side greater than 20,000 square metres in area, making it an incredible sight to behold for the ancient and modern eye alike. The architectural innovation displayed by the Fourth Dynasty, seemingly emerging from nowhere, didn't stop there however, with the cornerstone foundations of each side using a back and socket design to protect the pyramid from earthquakes.

Even the cement used to hold every giant stone block together was the product of innovation - one that modern engineers have failed to recreate in modern tests. And the fact that this substance

Magine Image Source • Marcus Cyron, CC BY-SA 3.0.

Giza's Great Pharaohs

The Great Pyramids at Giza are testament not only to the ingenuity and engineering prowess of an ancient culture, but an almost everlasting statement from a handful of incredibly powerful men. The pharaohs were already the most powerful and spiritually pure beings in the kingdom, but these few weren't satisfied with earthly glory – they wanted structures that would ensure their survival for time immemorial. From Khufu to Menkaure, these men would express their power like no other – and their mark on the world would live on for thousands of years.

KHUFU

For a man believed to have commissioned the Great Pyramid of Giza in his honour, the details surrounding the life and times of Khufu are somewhat incomplete. However, we do know that this pharaoh of the Fourth Dynasty was the second leader to rule in that dynasty during the Old Kingdom. The ancient historians who provide us with most of our information regarding Khufu often contradict one another as to the nature of his character – one interpretation presents him as an amicable figurehead who inspired the Great Pyramid, while another presents him as a vile man who prostituted his own daughter to make money.

KHAFRE

Much like his father Khufu, the fourth leader of the Fourth Dynasty was also a man who felt the calling to build something as grand and wondrous as the Great Pyramid. A man who married his sister Meresankh III (a common practice in Ancient Egypt – Khufu himself married his own sibling), Khafre typified his reign by the productivity of his construction. He had the second of the great pyramids built in a nearby valley and had a grand causeway constructed to link the two. This causeway also connected up to the Great Sphinx, a structure many believe bears the features of Khafre himself.

MENKAURE

Believed to be the son of Khafre, Menkaure was the fifth king of the Fourth Dynasty in Ancient Egypt. While accounts of both Khufu (his grandfather) and Khafre are mixed and often contradictory, historical depictions record the Egyptian leader as being pious and a strong and well-liked monarch. It was under his reign that the third and last of the Great Pyramids was constructed. It was, unfortunately, left incomplete at the time of his death but such was the goodwill felt by the people in his passing that his successor, Shepseskaf, oversaw the completion of the structure in his honour.

Image Sources • 1. captmondo, CC BY-SA 3.0. • 2. A. Parrot, CC BY-SA 1.0 • 3. Iry-Hor, CC BY-SA 3.0.

The huge 'solar ship', now reconstructed, was buried with Khufu to carry him and his riches into the afterlife

Above Image Source • Berthold Werner, CC BY-SA 3.0.

has kept the Great Pyramid upright for over 2,000 years proves just how resourceful these Fourth Dynasty builders were. The outside of the pyramid that we see today wasn't the finished product the Ancient Egyptians enjoyed in person either. Upon completion, the exterior of Khufu's supposed tomb was layered with casing stones made of highly polished limestone. This made the Great Pyramid a shining beacon at the centre of the Egyptian realm, but its casings were stripped centuries later by Muslim traders following the end of the dynasties.

Today, Khufu's Great Pyramid and the rest of the structures at Giza continue to fascinate archaeologists and scientists. As the last remaining ancient wonder of the world, great care has been taken to preserve their ancient identities. As such, the methods by which experts are reevaluating these structures has had to evolve in order to provide insight without causing lasting damage.

One such method includes techniques such as thermal scanning and 'muon' based radiography (muons are elementary particles similar to electrons, but with a greater mass) and are used as part of the home-grown Egyptian initiative ScanPyramids, which is helping us peer into the past like never before. "The ScanPyramids mission is an international scientific project that has been launched by the HIP (Heritage Innovation Preservation) Institute, the Faculty of Engineering (Cairo University) and the Egyptian Ministry of Antiquities," reveals president and co-founder Mehdi Tayoubi. "Our goal is to gather the best scientific teams in the world who have non-destructive techniques to try and 'see' through the stones rather than disturb them."

The research is centred around the use of muons, whose heavier masses make them ideal for bouncing through solid objects to build up detailed images of the structure within. "We are using three different techniques involving muon radiography," adds Tayoubi on the subject. "We also use laser scans and photogrammetry techniques to get the most accurate 3D model of Giza and Dashour."

Projects such as ScanPyramids are just one of many new programmes created to better understand the internal structure of the Great Pyramid, as well as locating potential hidden voids or structures via a series of non-invasive techniques. The multi-disciplinary approach is one that's walking the bleeding edge of new scanning technology with a number of techniques barely out of research laboratories before they're employed in the field. And with Tayoubi and his team already on site at Giza studying the Great Pyramid, he's looking forward to sharing their data with everyone from experts specialising in ancient architecture to particle physicists and engineers.

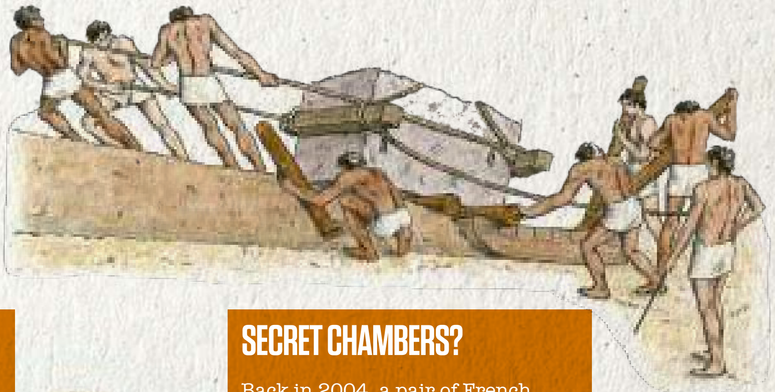
"We know that we are not the first to try, but with ScanPyramids we want to contribute to increasing the knowledge we have on the pyramids with humility," says Tayoubi on finding that balance between furthering our knowledge of Khufu's pyramid while blazing a path for the use of

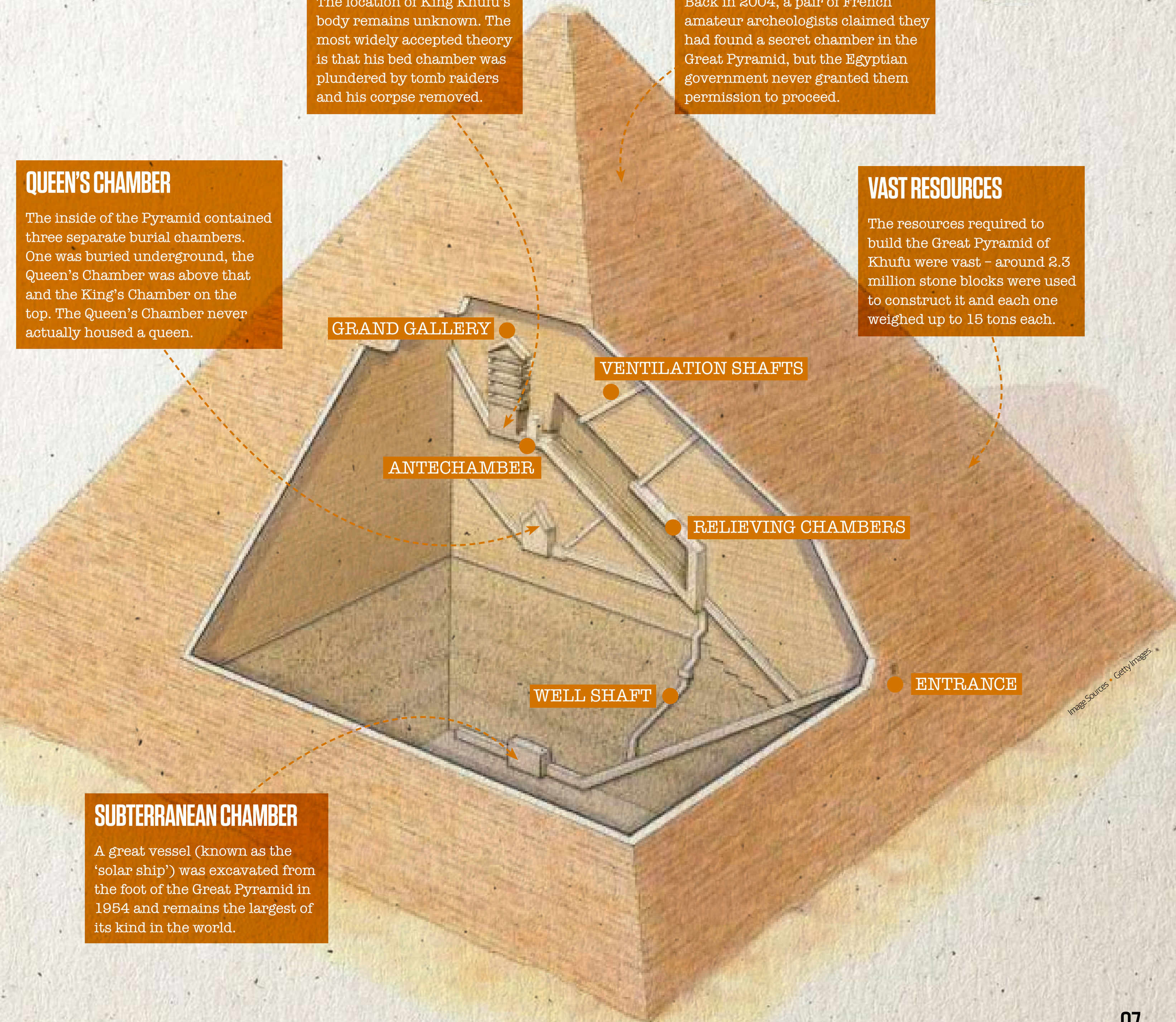
The ring of Cheops (Cheops is another name used for Khufu)

Margin Image Sources • 1. One dead president, CC BY-SA 3.0. • 2. Public Domain; Yonge, Charlotte Mary.

CHAMBERS OF THE GREAT PYRAMID

The Great Pyramid is the centrepiece of the complex at Giza. The dominating landmark was constructed from over 2 million stone blocks, weighing between two and 15 tons each. It is the last standing, and the largest, of the seven ancient wonders of the world, and its existence gives us a glimpse into the vast empire of Ancient Egypt under King Khufu. This is the inside of the Pyramid as we know it now, but it is possible that the ScanPyramids team will find something new – particularly in light of the mysterious heat anomalies detected at the site in 2015.





KING'S CHAMBER

The location of King Khufu's body remains unknown. The most widely accepted theory is that his bed chamber was plundered by tomb raiders and his corpse removed.

SECRET CHAMBERS?

Back in 2004, a pair of French amateur archeologists claimed they had found a secret chamber in the Great Pyramid, but the Egyptian government never granted them permission to proceed.

QUEEN'S CHAMBER

The inside of the Pyramid contained three separate burial chambers. One was buried underground, the Queen's Chamber was above that and the King's Chamber on the top. The Queen's Chamber never actually housed a queen.

VAST RESOURCES

The resources required to build the Great Pyramid of Khufu were vast – around 2.3 million stone blocks were used to construct it and each one weighed up to 15 tons each.

SUBTERRANEAN CHAMBER

A great vessel (known as the 'solar ship') was excavated from the foot of the Great Pyramid in 1954 and remains the largest of its kind in the world.

Image Sources • Getty Images

Image Source • Photoshot

The Great Pyramid may look smooth from afar, but its exterior has a jagged, stepped pattern created by the blocks of stone used to build it

“THE GREAT PYRAMID AND ITS GRAND NEIGHBOURS REMAIN ONE OF MAN'S MOST AWE-INSPIRING ACHIEVEMENTS”

scanning in modern archaeology. “We don't know if we will find something, but our motivation is based on our passion and our childhood dreams. By using those techniques on the field we not only see the pyramids with a new perspective but we also give a new perspective to the technology that is making progress thanks to the magic of Egyptian heritage.”

The Great Pyramid itself is mostly solid mass, and while it isn't the intricate network of chambers that films would have us believe, it does hold a handful of chambers built specifically for the pharaoh and his queen. Its only known interior spaces include the Descending Passage (the original entrance), the Ascending Passage, the Grand Gallery, a mysterious grotto, an equally mysterious subterranean chamber and the two main chambers. The two chambers, the King's Chamber and the Queen's Chamber are stacked on top of one another. Interestingly, a great deal of historians believe the Queen's Chamber never did, nor was it ever intended to, house a queen but simply represented the pharaoh's right to bear one both in life and in death.

So what of its contents? A tomb built for a king would surely be overflowing with riches to carry him to the afterlife? Sadly, the reality is far less glittering. In the ninth century, long after the death of Ancient Egypt, a young Arab caliph by the name of Abdullah Al Mamun thirsted for knowledge of the world. He wanted to map the lands beyond his kingdom and believed he would find the beginning of his destiny in the King's Chamber of the Great Pyramid at Giza. He and his men opened the tomb and entered the chamber, only to find it picked bare, with an equally empty coffin. It seems thieves had already had their way with the posthumous wealth of the once great pharaoh, and spirited away his earthly remains to boot.

It's a mystery that's bloomed ever since, branching out with even more questions and theories. Why would someone remove the body of a long dead king? Why are there no references to Khufu anywhere in the chamber? Was the Great Pyramid ever truly his? Such speculation has produced many a theory as to the true location of Khufu's body, including the possibility that his remains were removed by his priests (either those pledged to him shortly after his demise or those following the death cult that flourished in his name during the 24th Dynasty) in order to protect them from grave robbers and raiders. This theory - and it is only a theory, since we have no evidence to support or dismiss it - alludes to a potential second sacred site that remains untouched to this day.

One of the other popular theories suggests Khufu's remains are actually still in the Great Pyramid, surreptitiously contained within a secret chamber that's yet to be discovered. It's one of many possibilities that Mehdi Tayoubi and his team at ScanPyramids are hoping to investigate, with the help of others.

“Unfortunately, we're not archaeologists,” admits Tayoubi. “Our scientific process is designed to scan the pyramids on a wide scale and is pushing the limits of the technology. If there is a void then other disciplines will tell us why this void exists through their historical architectural knowledge. We can compare our approach to what is happening when an Egyptologist asks a forensic scientist to look at a mummified body through a medical scanner. It's a collaborative process - if we can determine that no chambers contain any irregularities that could be perceived as a coffer, the search for Khufu can continue elsewhere. It's a mystery that no one discipline can solve.”

That's not to say ScanPyramids is done with the Great Pyramid and the other two structures at Giza. Much like the rest of the archaeological community, the absence of answers only fuels the desire to learn more. Take the strange heat anomalies that were discovered by a separate survey team back in 2015 - a new mystery to join the many that already exist.

Tayoubi and his team are focused on this new Great Pyramid conundrum as well. “We don't know quite what's causing these heat patches yet, but we are now working with the muons telescopes from the outside of the structure to better understand those areas,” he adds. “We also run a multiple 24-hour infrared survey - our goal is to register for a long period the difference of temperatures to eliminate the effects of outside elements such as wind. This mission is about long-term statistics and measurements. The Great Pyramid may well have been built more than 4,000 years ago so a one year mission is really the minimum to better understand them.”

And so Tayoubi is only looking to the future as ScanPyramids tries to refine and innovate as it continues to dissect the contents of what may or may not be Khufu's grand monument. “Our process is very cautious, and progress is only made step by step,” he quietly muses. “Each day we are making progress with the techniques needed to really understand this structure. For example, at the beginning of our time in Giza the chemical emulsion we used to scan with was only able to be exposed for a total of 40 days (mainly because of the humidity and temperature of the Egyptian air). Now we have a new emulsion that can be exposed for more than 60 days - now we can record more muon tracks and get more accurate muography images with more statistics.”

So whether you travel to Giza as a tourist or an academic, the Great Pyramid and its grand neighbours remain one of man's most awe-inspiring achievements. Through its near eternal monuments, a long-dead culture continues to preside over its modern descendants like silent guardians. Whether the Great Pyramid truly was Khufu's final resting place or not, the murky political machinations of the past can't diminish the majesty of this wonder of the world.

Image Source • Getty Images

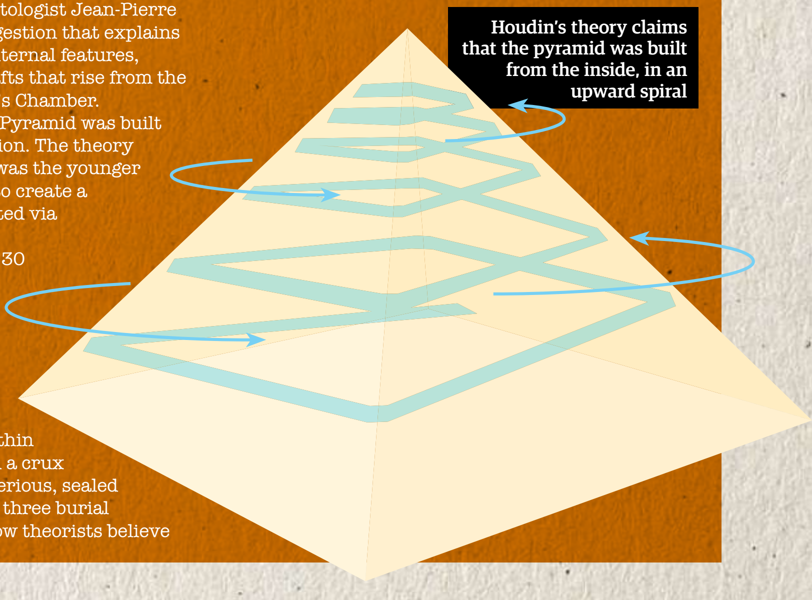
The Great Pyramid and the Spiral Structure theory

For well over a century, archaeologists and Egyptologists had a uniting theory regarding the construction of Khufu's Great Pyramid and every other pyramid built in the Egyptian style – they were built outside, from bottom to top. Then French architect turned amateur Egyptologist Jean-Pierre Houdin came along, with a suggestion that explains many of the Great Pyramid's internal features, including those mysterious shafts that rise from the King's Chamber and the Queen's Chamber.

Houdin believes that the Great Pyramid was built from within, using a spiral motion. The theory was begun by his father, but it was the younger Houdin who used 3D software to create a model of the pyramid constructed via this ‘Spiral Structure’ theory.

The theory states that the first 30 per cent of the Great Pyramid was built using an external ramp, with a second ramp created within the structure to take it all the way to its pinnacle.

This theory is supported by a surviving ramp that resides within the tomb and continues to form a crux of the concept. And those mysterious, sealed shafts that rise from two of the three burial chambers? Houdin and his fellow theorists believe that these were created as a means of checking the structural integrity of the pyramid as it neared completion and were later filled in when such fears had been allayed.


Houdin's theory claims that the pyramid was built from the inside, in an upward spiral

THE SECRETS OF STONEHENGE

Solstices, Druids and the dead: discover the different theories behind Europe's most famous prehistoric monument

WRITTEN BY **SCOTT REEVES**

For most of the time, the massive stones stand quiet and alone, roped off from the eyes of the public. But twice a year, during the summer and winter solstices, Stonehenge takes on a life of its own. At midsummer, the sun rises close to the Heel Stone, a prominent marker that juts into the ball of flame, while the first rays of light fall between the massive grey sarsen stones. At midwinter, the sun sets in the gap between the two uprights of the largest trilithon, the day slowly dying as the Sun slumps into darkening rock.

A lively crowd of revellers gathers to watch the awe-inspiring conjunctions of Sun and stone. For them, Stonehenge is a place of worship and the solstices are a religious festival.

"It is a continuum of what has been happening at Stonehenge for thousands of years," explained Arthur Pendragon, a Druid leader. "We know that there has been feasting for thousands of years and people have gathered here. We don't know what they did - they didn't leave written records so nobody knows - but we can work out that they honoured the fact that there were longest and shortest days by calling on the Sun and the Earth. You can't say exactly what the rites were thousands of years ago but you can say they have been celebrating and we continue to do that."

Not everybody agrees. According to Mike Parker Pearson, an archaeologist who has worked on Stonehenge, "...we have to shake off this idea of various sorts of priests or shamans coming in every year over centuries to do their thing." For Parker Pearson, "Stonehenge wasn't built in order to do something, in the same way you might build a Greek temple to use it for worship. It seems much more likely that everything was in the act of building - you construct it, then you go away."

The Stonehenge debate has caused much controversy over the last century. It's a sign that the famous monument has as much a grip on modern minds as it did on ancient ones. The problem we now face is that much knowledge has been lost to the mists of time. Who built Stonehenge? And why? Were they predicting the movement of the stars, or venerating their ancestors, or were they doing something completely different?

One difficulty is that Stonehenge has a messy and unclear history, a puzzle that archaeologists have spent centuries trying to unpick. Stonehenge's long life began sometime around 3000 BCE when a circular ditch was dug out of the chalk soil with the backfill used to build up a bank alongside and a small entrance inserted to the north east. Even in this simple, earliest phase, things are not easily understood. A prehistoric henge is a monument with a ditch on the inside, the bank on the outside.

At Stonehenge, the ditch is on the outside and the bank is on the inside, a layout more typical of a defensive site. In short, Stonehenge isn't technically a henge.

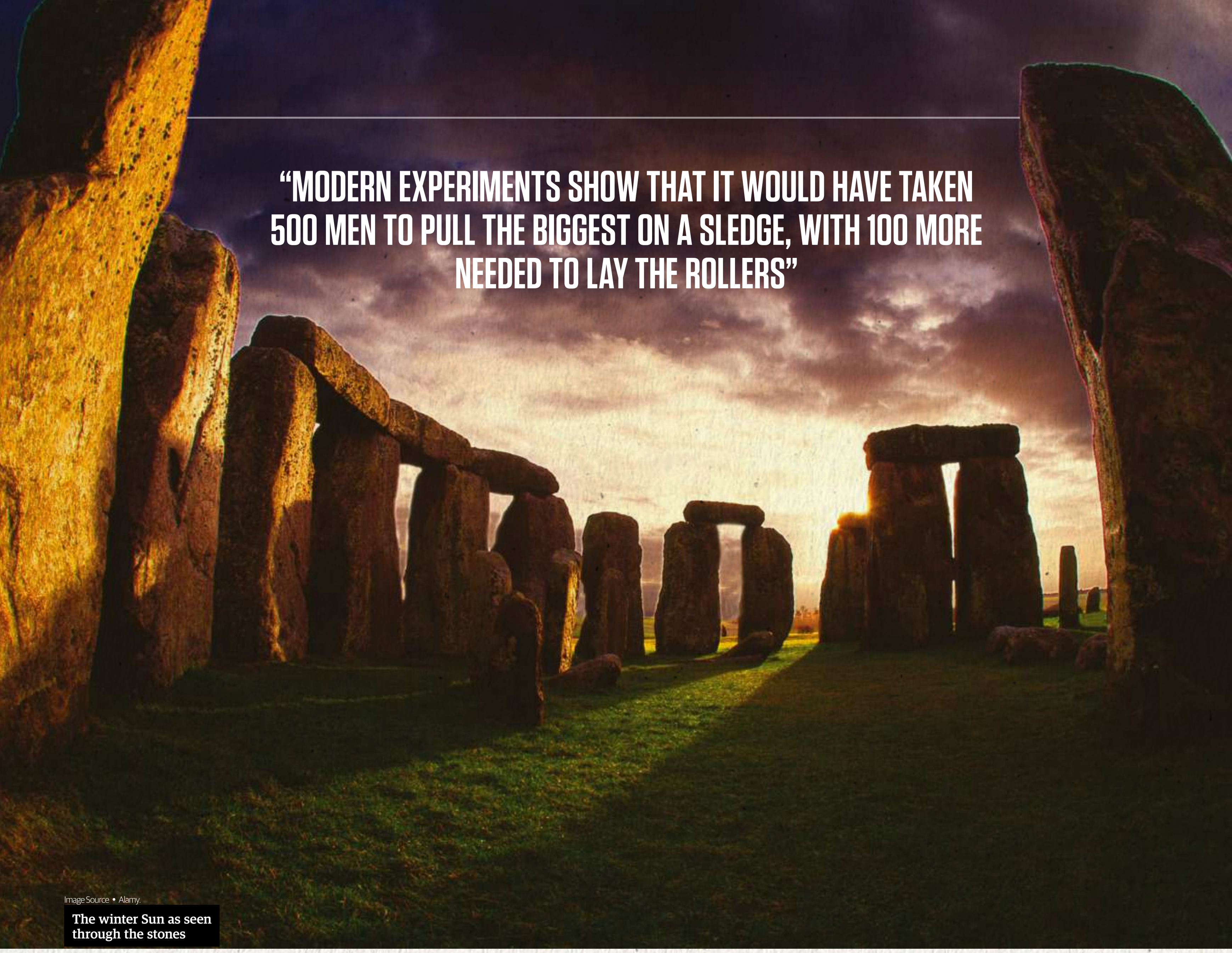
Bones of deer and oxen were discovered in the bottom of the ditch, as well as some worked flint tools. The bones are not likely to be the remains of food supplies used during the construction because they are considerably older than the antler picks that were used to dig the ditch - so were they a ritual offering? Towards the outer edge of the enclosed area is a circle of 56 pits, each about a metre in diameter, known as the Aubrey holes after John Aubrey, the antiquarian who first identified them in the 17th century.

About 100 years after the ditch was first dug, Stonehenge was probably home to a wooden structure; certainly a number of postholes have been discovered. During the same period, the Aubrey holes were commandeered for a second purpose: burial. More than 50,000 cremated bones from 63 people were discovered in the Aubrey holes in 1920, but being considered of little archaeological value, they were reburied together in one Aubrey hole in 1935. Not until 2013 were the bones retrieved; modern scientists and bone experts concluded there was an equal mix of males and females, including some children. More cremation burials were scattered around the enclosure and in the ditch, indicating that Stonehenge - at least at this point - was a funerary site.

It was not until the third phase of Stonehenge's history, some 500 years after it was first created, that the monument began to take the shape we

> "DURRINGTON WALLS WAS A PLACE OF THE LIVING, CHARACTERISED BY CIRCLES OF WOOD. STONEHENGE WAS A PLACE OF THE ANCESTORS, CHARACTERISED BY THE COLD, DEAD STONE"

Image Source • Shutterstock



> “MODERN EXPERIMENTS SHOW THAT IT WOULD HAVE TAKEN 500 MEN TO PULL THE BIGGEST ON A SLEDGE, WITH 100 MORE NEEDED TO LAY THE ROLLERS”

Image Source • Alamy.

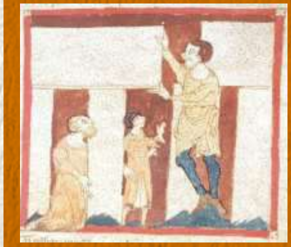
The winter Sun as seen through the stones

Explaining Stonehenge

Hundreds of theories have tried to explain Stonehenge and its origins; some are workable, while others are just plain wacky

MERLIN’S WAR MEMORIAL

The first theory about the function of Stonehenge that we know of is Geoffrey of Monmouth’s, whose 12th-century Historia Regum Britanniae stated that the monument stood as a memorial to 3,000 Britons who were killed in battle by the invading Saxons. The stones were transported from Ireland by Merlin on the orders of 5th-century King Aurelius Ambrosius.



ROCK MUSIC

Researchers from the Royal College of Art have suggested that some of the bluestones possess unusual acoustic properties, giving out a loud clanging noise when struck. Perhaps the musical rocks, known as lithophones, were thought to contain special powers. They also note that some of the bluestones originated near a town in Wales called Maenclochog, the name of the town means ‘ringing rock’.

ROMAN TEMPLE

Architect Inigo Jones attempted to reconstruct Stonehenge on paper. His solution – a regular, geometric form – convinced him that the monument was of a Roman origin. His book – The Most Notable Antiquity Of Great Britain, published posthumously in 1665 – suggested that Stonehenge was a temple dedicated to Caelus (a Romanised version of the Greek god Uranus) and built in the Tuscan style.

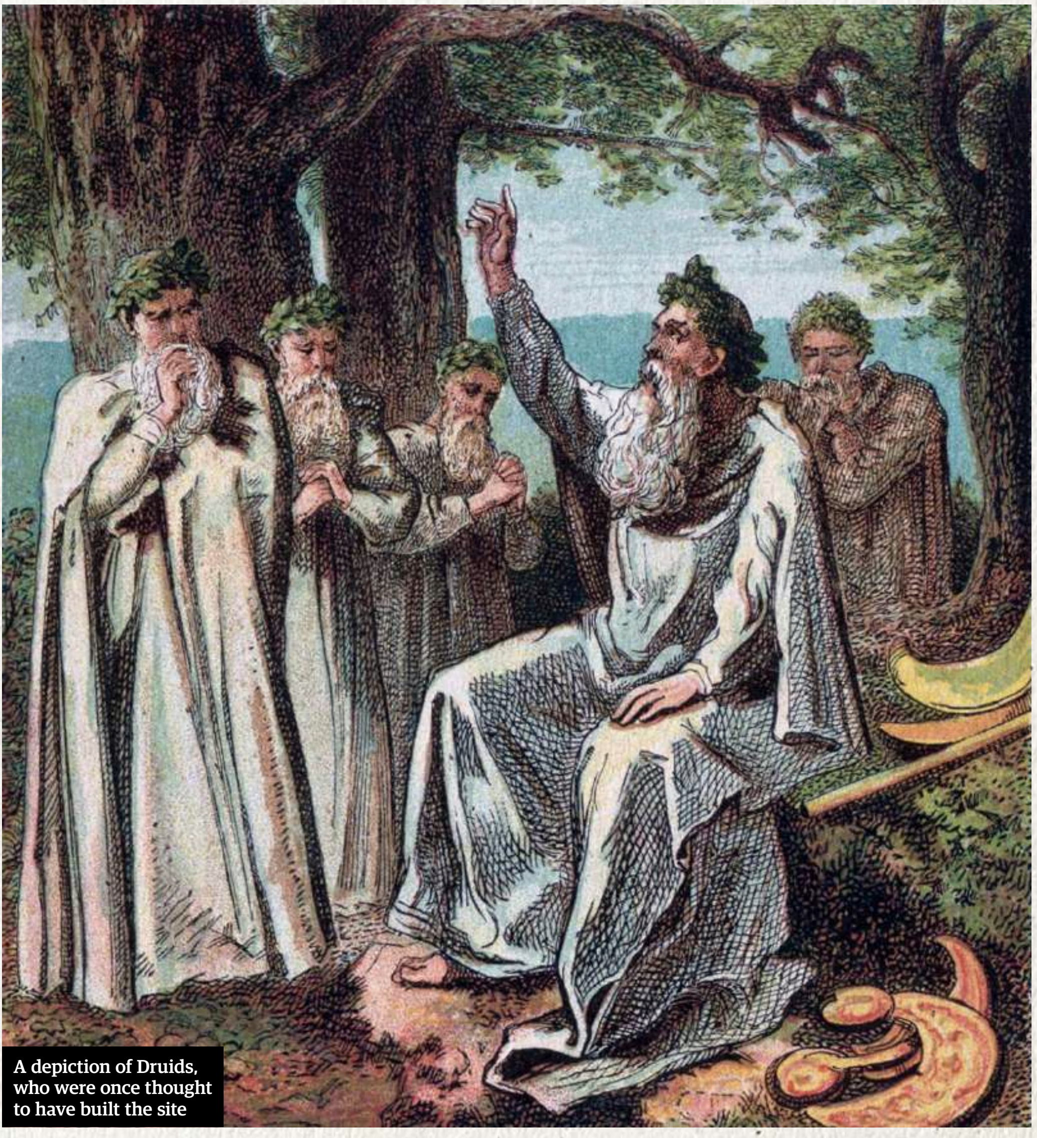
PREHISTORIC LOURDES

Archaeologists Timothy Darvill and Professor Geoff Wainwright think that Stonehenge was a site of healing. The bluestones were transported from Wales because they had magical powers, imbued with healing properties due to their proximity to natural springs. The ill and injured travelled to Stonehenge in hope of a cure, explaining the number of burials in and around the site.

AN ALIEN INTERVENTION

Perhaps the oddest theory was that put forward by Erich von Däniken in his 1968 book Chariots Of The Gods. He studied ancient monuments around the world, including Stonehenge, the Pyramids and the Easter Island Moai, and concluded that they were either constructed by extraterrestrial visitors or by humans who learned the necessary knowledge from their otherworldly visitors.

Image Sources • 1. Public Domain; British Library, Egerton 3028 • 2. Getty Images. • 3. Getty Images • 4. Flickr; Lets go out Bournemouth and poole. • Getty Images.



A depiction of Druids, who were once thought to have built the site

Image Source • Public Domain, Joseph Martin Kronheim.

are familiar with. Wooden posts were abandoned in favour of 80 standing bluestones, which were brought to the site and arranged in a double half-circle. At the same time, the entrance towards the north east was widened, matching the direction of the midsummer sunrise.

The scale of the undertaking should not be underestimated. Research suggests that the bluestones were transported more than 241 kilometres from a quarry at Craig Rhos-y-felin in Pembrokeshire's Preseli Hills. Each stone was about two metres high and two tons in weight. They may have been moved overland using rollers and frameworks of wooden poles, although some archaeologists favour transport by sea. Others think that the stones were carried to Wiltshire by glacier and not by humans at all.

Despite the huge effort involved in modifying it, Stonehenge never stayed the same for long. Within a century, the bluestones were dug up, making room for the enormous sarsen stones that are Stonehenge's most iconic structures today. Mortise and tenon, and tongue and groove joints – techniques usually associated with woodworking – allowed a ring of stone lintels to rest on top of the circle of standing stones. A great deal of thought went into the sarsen circle; the standing stones widen slightly towards the top so their perspective remains constant when viewed from the ground, while the lintel stones curve slightly to help create a circular appearance. The inward-facing surfaces of the stones are smoother and more finely worked than the outer surfaces.

Within the sarsen circle stood five sarsen trilithons (two standing stones with a lintel on top) arranged in a horseshoe with the open end facing north east. Larger than the sarsens that made up the circle, the stones used for the trilithons were up to six metres tall.

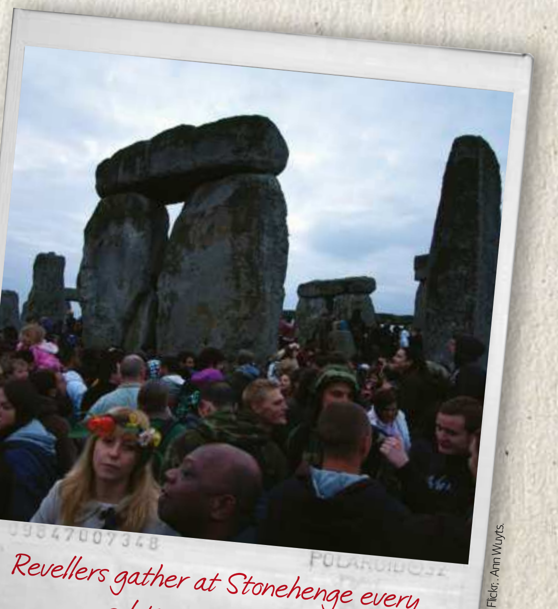
The effort involved in carrying the bluestones pales into insignificance when compared with the sarsen stones. Although more local in origin – the sarsen may have come from a quarry 40 kilometres north of Stonehenge or the builders may have made use of closer outcrops – the sarsens used to build the circle weighed 25 tons each, while the larger stones used for the trilithons weighed up to about 50 tons each. Modern experiments show that it would have taken 500 men to pull the biggest stones on a sledge, with 100 more men needed to lay the rollers in front of the sledge.

Considering their size, the precise placement of these massive objects is staggering. Even though the ground on which Stonehenge stands is slightly sloping, the lintels are perfectly horizontal. To get them in place, earth ramps were probably piled against the uprights. The lintels would then have been hauled up the ramp by ropes into their exact position.

The Avenue – a parallel pair of banks and ditches that runs north east along the same alignment towards the River Avon – was probably dug at about the same time, although dating it is difficult. So too is dating the Heel Stone, which was erected outside the entrance, probably one of a pair originally. Whatever the exact chronology, the conjunction of the entrance, the Heel Stone and the Avenue suggests that it is around this time that the solstices took on particular importance.

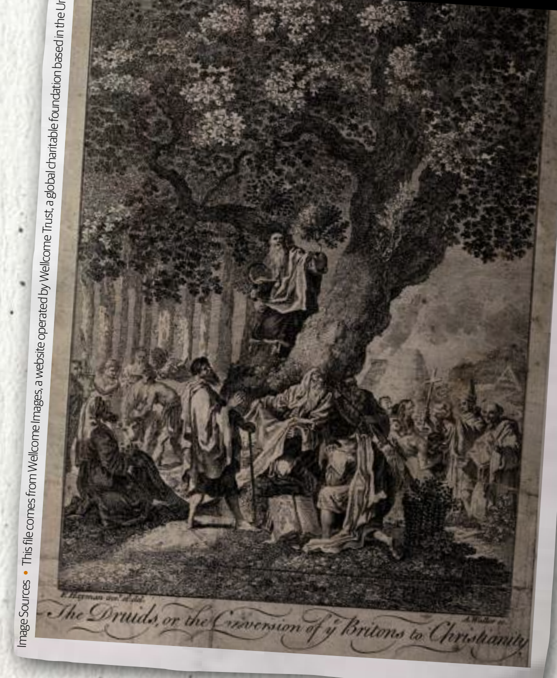
By 2500 BCE, Stonehenge was a monument we would recognise today, but building work didn't end with the erection of the sarsen stones. Over the next few centuries, the bluestones were repositioned more than once, ending up in a circle between the sarsen circle and the trilithons and in a horseshoe inside the trilithons. Four station stones were set up on the periphery of the enclosure, two of which were surrounded by small ditches. One of the final alterations was the digging of two rings of concentric pits – the Y and Z holes – dated to between 1800 and 1500 BCE. They may have been intended for another rearrangement of the stones that was never completed.

With such a complex history, it is hardly surprising that archaeologists and historians have puzzled over the exact nature of Stonehenge and why it was built. Among the first antiquarians to study Stonehenge was John Aubrey, after



Revellers gather at Stonehenge every solstice to celebrate

Image Source • Flickr: Ann Wuyts.


The Druids, or the Conversion of y Britons to Christianity

The Druids; Or The Conversion Of The Britons To Christianity, a 1758 etching

Image Sources • This file comes from Wellcome Images, a website operated by Wellcome Trust, a global charitable foundation based in the United Kingdom.

whom the Aubrey holes are named. He declared Stonehenge to be the work of Druids in 1640. 100 years later in 1740, William Stukeley continued Aubrey's view that Stonehenge was a Druidic monument and made the first attempt to date it. Working with astronomer Edmund Halley and using the idea that the stones were aligned to the magnetic north, Stukeley suggested that Stonehenge was completed in 460 BCE, some 2,000 years too late. In the same year that Stukeley suggested his erroneous date, architect John Wood published a survey of Stonehenge. However, his idea that Stonehenge was a pagan temple was vehemently attacked by Stukeley, who regarded the Druids not as pagans but as proto-Christians.

The antiquarian proposal that Stonehenge was a Druidic place of worship was aided by the interpretation of two particular stones. The first, named the Slaughter Stone, lies midway between the stone circles and the Heel Stone by the entrance. The name suggests that it was where sacrifices were carried out, a deduction made due to the colour of the water that collects in puddles on its surface. In fact, it is algae and iron in the stone that causes the discolouration. Similarly, the Altar Stone, located in the centre of the trilithon horseshoe, is likely to be a misnomer. Inigo Jones suggested in the 17th century that, "…whether it might be an altar or not, I leave to the judgment of others." Although Jones was not aware that the Altar Stone was originally in an upright position.

Scientific archaeological investigation and radiocarbon dating has now proved that Stonehenge was constructed thousands of years before the antiquarians thought, making it a late Neolithic monument. It was a time when society had transformed from bands of hunter-gatherers to agriculturalists, growing crops and radically transforming the landscape. The Druids who

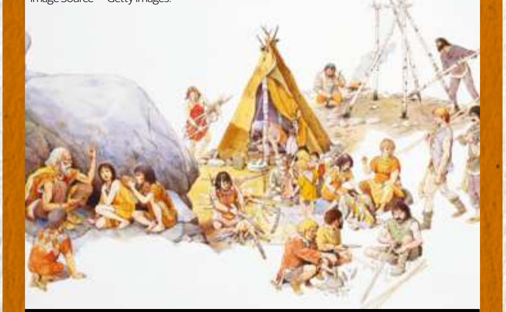
Discovering a dog's tooth

New discoveries suggest that this landscape was important well before Stonehenge was built

Archaeologists excavating at Blick Mead, less than three kilometres from Stonehenge, think that Mesolithic hunter-gatherers lived in the area, pushing back the known timescale that this area has been inhabited by thousands of years. Finds have been identified that indicate that Blick Mead was in continual use between 7550 and 4700 BCE. Animal remains suggest that the inhabitants ate salmon, trout, hazelnuts and aurochs – extinct cow-like creatures that were the size of bison.

Most excitingly, the landscape in which Stonehenge was built may have had some kind of ritual or religious importance in the Mesolithic too. In summer 2016, archaeologists uncovered the tooth of an Alsatian-type dog thought to be a pet of a hunter. Scientists radiocarbon dated the tooth and found that the dog died 7,000 years ago. They also analysed isotopes in the enamel to discover that the dog was born around York, meaning that the dog travelled with its owner to Wiltshire, a journey of some 402 kilometres. That's further than we would expect a Mesolithic hunter-gatherer to move – was it some kind of pilgrimage? Did the land in which Stonehenge was later built have a religious significance to the dog's owner? Perhaps future research will answer those burning

Image Source • Getty Images.



Mesolithic hunter-gatherers may have viewed the area as a place of pilgrimage 4,000 years before Stonehenge was built

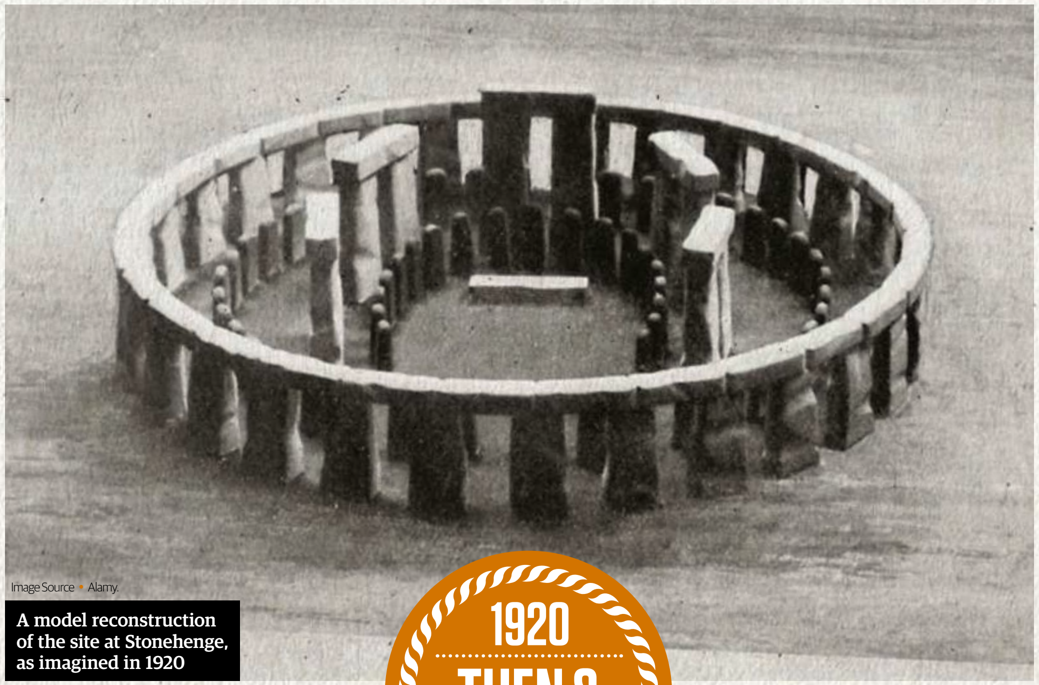


Image Source • Alamy.

A model reconstruction of the site at Stonehenge, as imagined in 1920

1920

THEN & NOW

The site as it looks today, as seen from above

Image Source • Alamy.

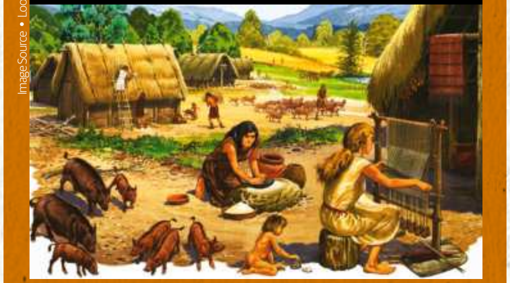


Image Source • Look and Learn

The people who built Stonehenge had embraced farming and lived in permanent settlements

Who were the builders?

Stonehenge was a massive engineering project – who chose to undertake such a colossal task?

Sometime around 4000 BCE, the new innovation of agriculture reached Britain. The change from being hunter-gatherers to farmers was a seismic shift, one known as the Neolithic Revolution.

Neolithic farmers settled in areas that were most favourable for farming, including the easily drained chalk hills of the south west. They lived in stable communities, cleared land, planted wheat and barley and raised herds of domesticated animals. Every so often the group would move on after the land had been farmed so that it would no longer support crops. In a few generations, they would return to the original settlement after the land had lain fallow long enough to regenerate. These communities, although relatively small, were able to embark on large engineering projects requiring group participation, of which henges and stone circles were just one type.

Neolithic people used flint, antler and bone to make tools and knew how to make ceramic pots. Given that they could not read or write we do not know how they identified themselves, so archaeologists tend to label the different cultures through the types of ceramics they used. Items from the Grooved ware culture have been discovered that are contemporary with the creation of the bank and ditch enclosure at Stonehenge. Later, when the bluestones and sarsens were being erected, it appears that the Beaker culture was dominant. Most famously, the Amesbury Archer was a beaker burial close to Stonehenge, dating to 2300 BCE. Whether he was personally involved in the construction or not we do not know, but he'll certainly have been familiar with Stonehenge during the age of the sarsens.

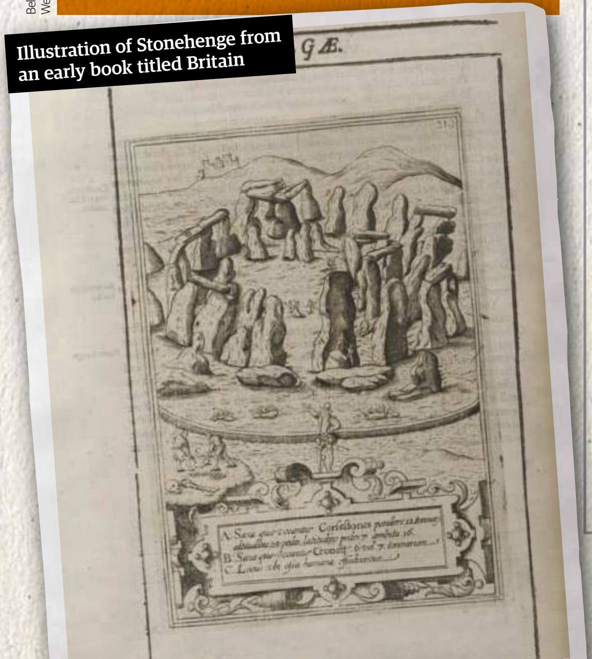


Illustration of Stonehenge from an early book titled Britain

Below Image Source • This file comes from Wellcome Images, a website operated by Wellcome Trust, a global charitable foundation based in the United Kingdom.

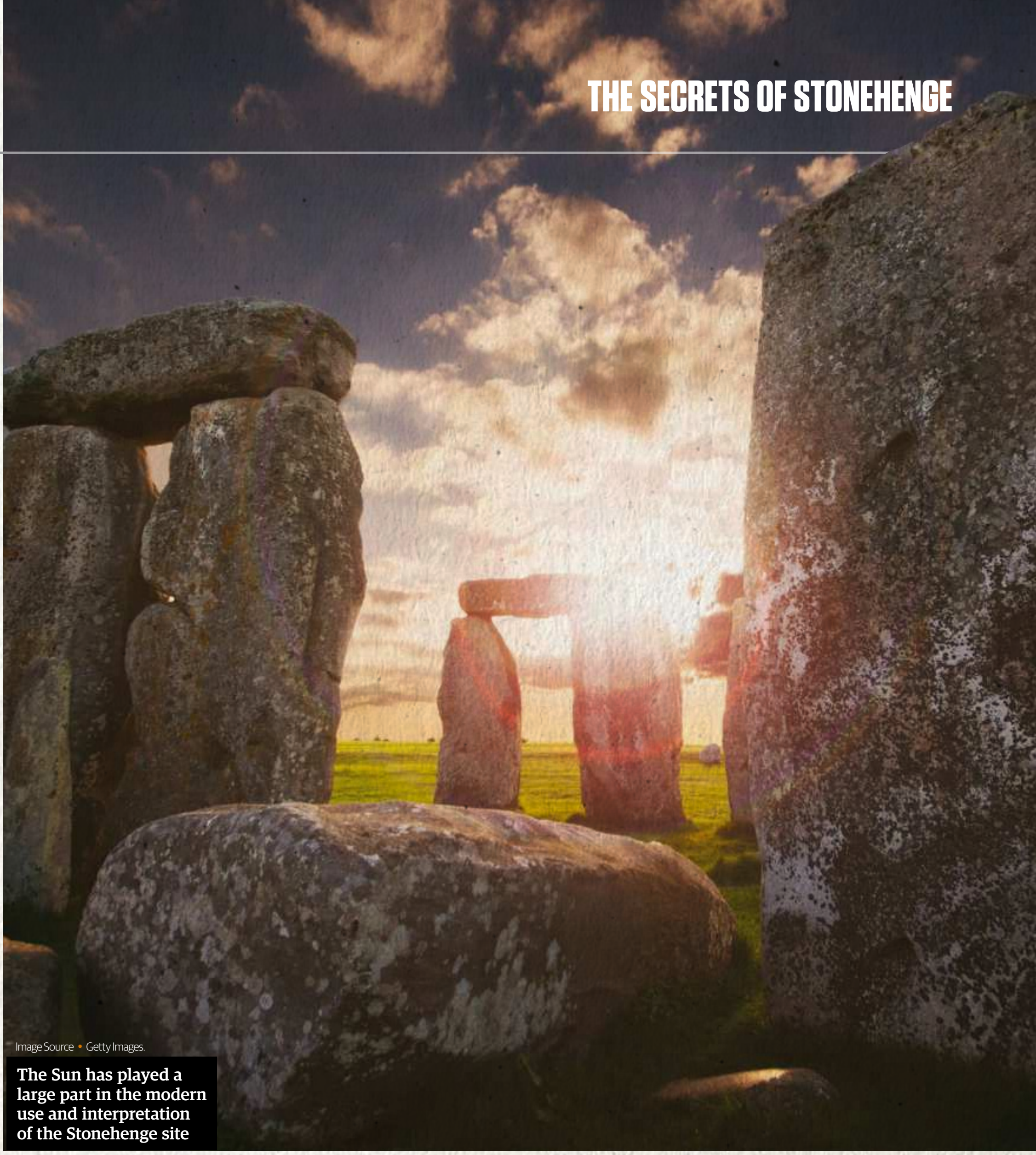


Image Source • Getty Images.

The Sun has played a large part in the modern use and interpretation of the Stonehenge site

Aubrey, Stukeley and Wood ascribed Stonehenge to lived in Britain during the Iron Age, some 2,000 years after Stonehenge was built.

Although the antiquarians may have been wide of the mark when it came to the influence of the Druids, they did get some things right. When William Stukeley recorded the site, he identified its astrological alignment: the entrance through the bank and ditch, the Heel Stone and the trilithon horseshoe facing the midsummer sunrise.

If the society that built Stonehenge had recently embraced agrarian practices, it might make sense that they took a new interest in the skies. If Stonehenge helped prehistoric people to observe the summer and winter solstice, they could then also plot other events in the year: the cycle of the seasons, the best time to plant and gather crops, the time for religious and ritual activities. Perhaps Stonehenge's astronomical alignment made it a massive calendar for its residents, an alarm clock for the farming year.

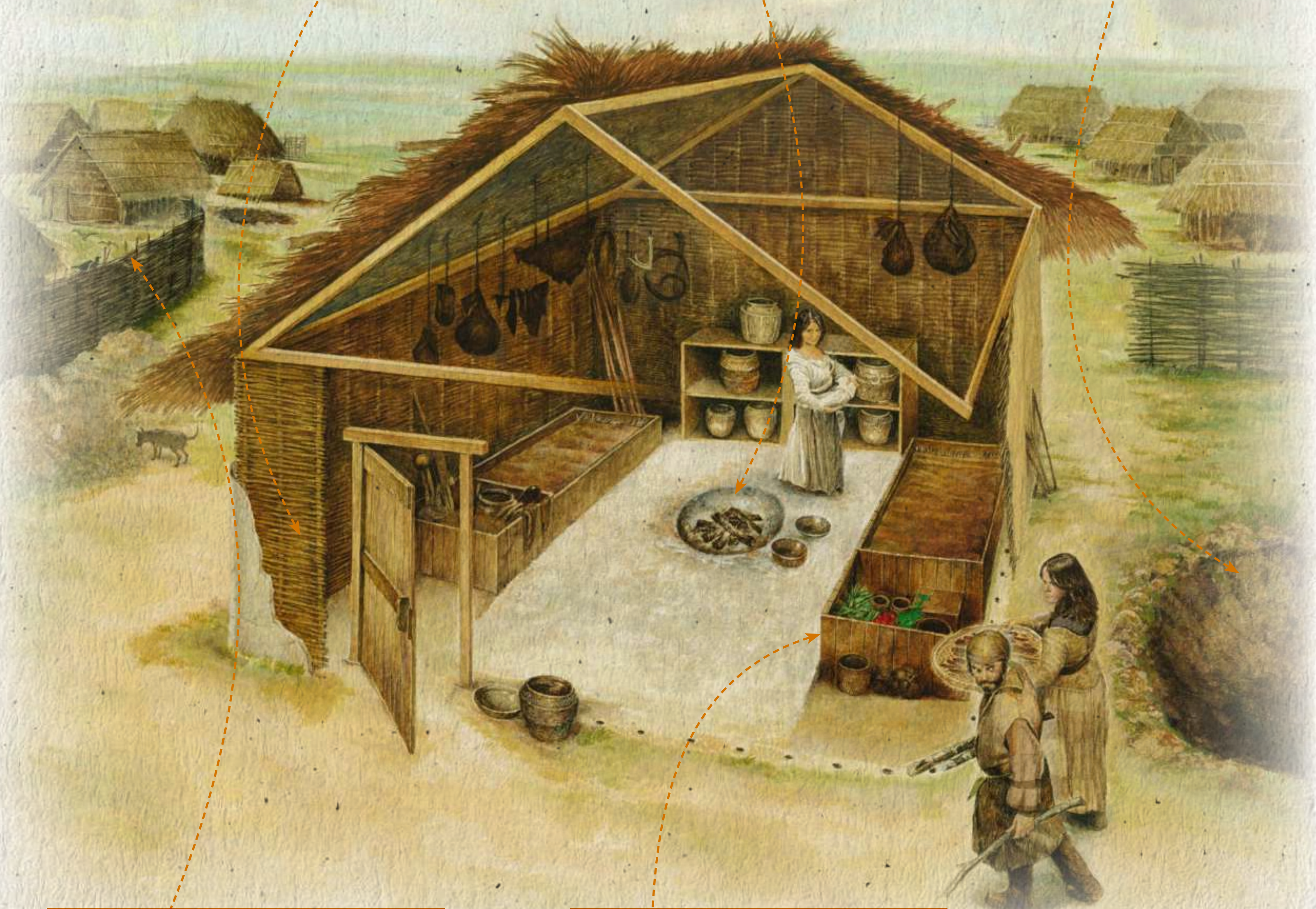
Stonehenge's alignment with the stars continued to be noted by later historians, but the debate was really ignited in 1963 when American astronomer Gerald Hawkins released Stonehenge Decoded. Hawkins claimed to have plotted 165 significant features at the site and mapped them against the night sky as it appeared in 1500 BCE, using an IBM computer to carry out an analysis – the use of such new technology was a novelty that spurred the interest of the press. Hawkins revealed dozens of alignments between Stonehenge, the Sun and the Moon and proposed that the Aubrey holes could be used to predict lunar eclipses by moving markers from hole to hole. Hawkins' theories were not universally accepted – it was pointed out that some of the Aubrey holes were probably natural depressions and that he had a large margin of error in his calculations – but the idea that Stonehenge was a kind of astronomical computer has continued to influence researchers.

Recent work by Mike Parker Pearson also embraces the idea that Stonehenge is astronomically aligned. Parker Pearson suggests that Stonehenge was part of a wider ritual landscape and that the solstices played a part in their construction.

"I didn't actually have any interest at all in Stonehenge," Parker Pearson revealed to National Geographic in 2013, soon after publishing his results. "I was working with Ramilisonina, a Malagasy archaeologist. He comes from a megalith-building culture, so I thought he'd be interested to see Stonehenge. He explained to me that Stonehenge was surely built for the ancestors. In Madagascar, they build in stone for the ancestors

INSIDE A NEOLITHIC HOUSE

Excavations at Durrington Walls suggest that many houses used to stand there, a village for the 4,000 people who constructed Stonehenge



WALLS

The walls of the houses were made by weaving hundreds of hazel rods through the main supporting stakes, then covering them with a daub of chalk, hay and water.

HEARTH

The single-room dwellings are surprisingly bright and airy. White chalk walls reflect sunlight and capture the heat from the fire. There is a lack of smoke, even when the fire is lit – the smoke filters up through the thatched roof..

RUBBISH PIT

Where people live, rubbish will inevitably follow. Among the houses were middens, which contained the bones of cattle, pigs and sheep, pottery and arrowheads – the typical refuse created by a Neolithic community.

VILLAGE

The eight houses excavated at Durrington Walls date to about 2600 BCE, the same time that the earliest stone circles were being erected at Stonehenge. Given that the eight houses cover only 0.3 per cent of the Durrington Walls enclosure, there was likely to be many more.

WOODEN FURNITURE

The houses measured up to 5x5 metres and the hard clay floor contained slots for timber beds and furniture. Although made of wood, they have a similar floor plan to stone-built houses found in Orkney, suggesting a far-reaching network in the Neolithic age.

Image Source • Alamy

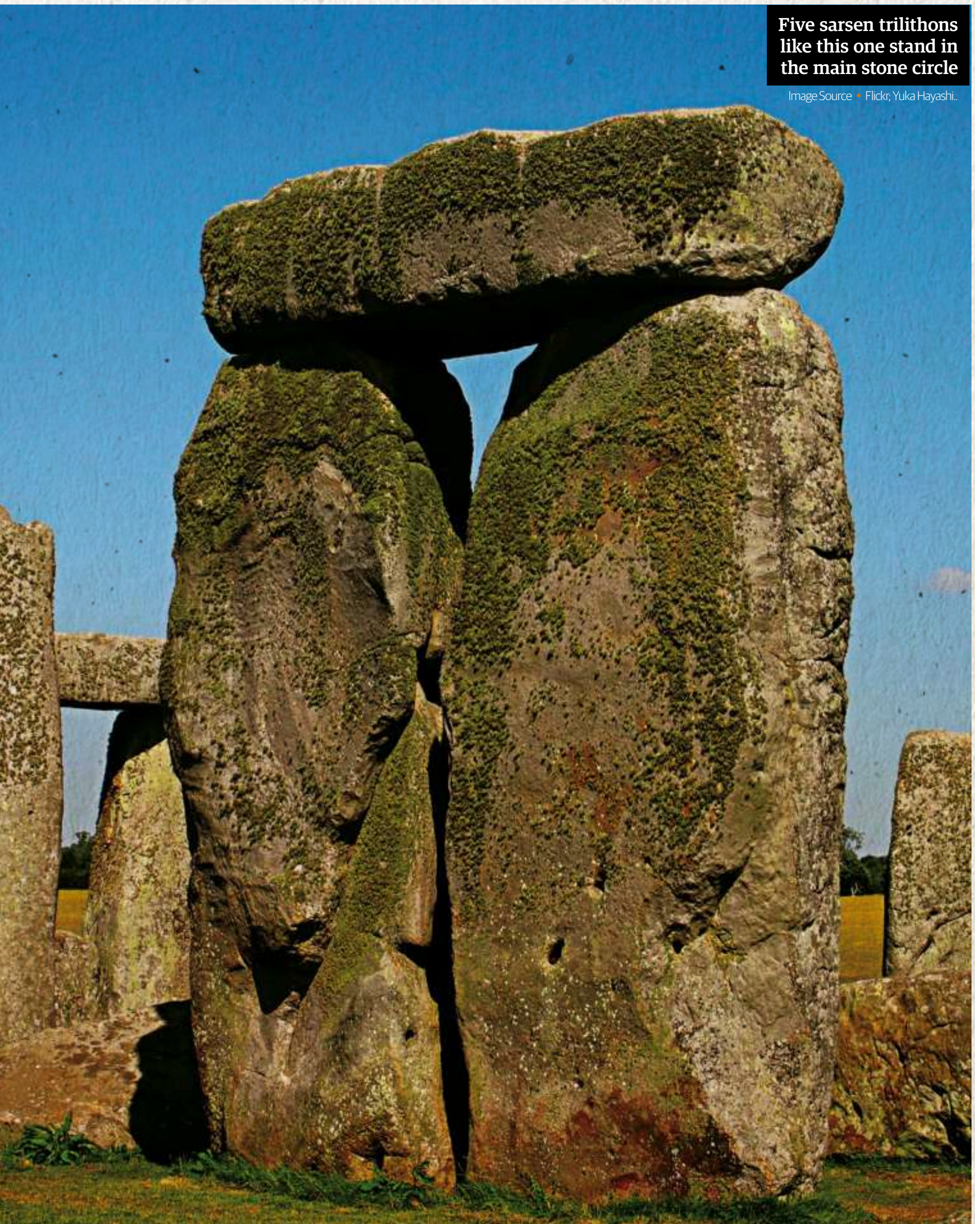
because it is a permanent medium - permanent like the ancestors - whereas they live in wooden houses because those will perish just like human life will end. I realised that actually we did have timber circles very close to the stone circle of Stonehenge. That was quite a bombshell for me."

Parker Pearson embarked on a programme of excavations at Durrington Walls, three kilometres to the north east of Stonehenge, another prehistoric monument that he sees as contemporary and complementary to Stonehenge. Durrington Walls is a true henge - the ditch is inside the bank - and encloses a much bigger area. At 500 metres across, Durrington Walls is nearly five times bigger than Stonehenge and is the largest henge in Britain. The massive enclosure housed a village - several houses have been excavated, but it's likely that there were more than 1,000 - together with timber circles and smaller enclosures. At least one of the timber circles was constructed in about 2600 BCE, the same time that the first stone circles were being erected at Stonehenge. Equally fascinatingly, the entrance to this timber circle points south west, towards the winter solstice sunrise and Stonehenge, just as Stonehenge faces north east towards the summer solstice sunrise and Durrington Walls. Also, just like Stonehenge, a ceremonial bank and ditch avenue led from the site. In this case, however, the avenue leads on a different alignment (although still an astronomical one, matching sunset on the summer solstice) towards the River Avon.

"At Durrington Walls, we have two of these great timber circles - a bit like Stonehenge in wood - at the centre of an enormous village," Parker Pearson explained. "From where we've excavated, you're looking at a fairly dense settlement of houses. We discovered that they'd been feasting there on a very large scale. We estimate that about 4,000-5,000 people may have gathered there at the time they were building Stonehenge. We also know that there were seasonal influxes to the settlement at Durrington Walls. Through analysis of the age patterns on the teeth of pigs, we can see that there are particularly high points in the slaughtering. The pigs had given birth in spring, and what we're seeing is a culling in the middle of the winter."

Parker Pearson views Stonehenge and Durrington Walls as part of the same ritual landscape, linked by the avenues and the River Avon. He suggests that Durrington Walls was a place of the living, characterised by its circles of wood, a material that came from living trees. Stonehenge, by contrast, was the domain of the ancestors, characterised by the cold, dead stone. Perhaps the journey along the avenues and River Avon towards Stonehenge was a ritual, a pilgrimage of sorts, used for funerals or to celebrate past ancestors. Given that the animals at Durrington Walls were slaughtered in the winter months, perhaps that season was the time when Stonehenge and the ancestors were venerated. Whereas the larger, modern crowd gathers at Stonehenge for the summer solstice, for the original crowds some 5,000 years ago, winter solstice was probably the time when they journeyed to Stonehenge.

To Arthur Pendragon and the modern Druids, Stonehenge is a place of worship. To Mike Parker Pearson, it's a place of the ancestors and the dead. We will never know exactly what was in the minds of the prehistoric people who spent a great deal of time and effort in making Stonehenge. We do not know definitively what the site was used for, nor why, but part of the draw of this enigmatic monument is exactly that - the enduring mystery and the way that different people can claim it for different things. The mighty standing stones certainly have not lost their appeal.

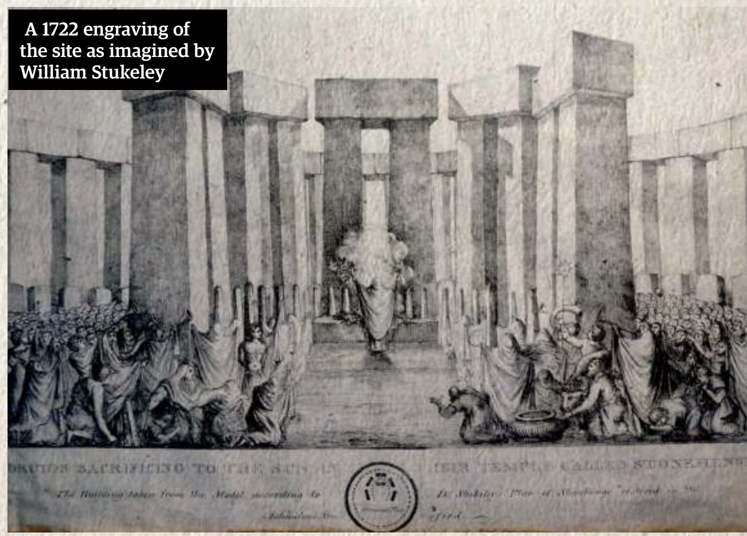


Five sarsen trilithons like this one stand in the main stone circle

Image Source • Flickr, Yuka Hayashi.

Image Source • Flickr, Jim Champion.

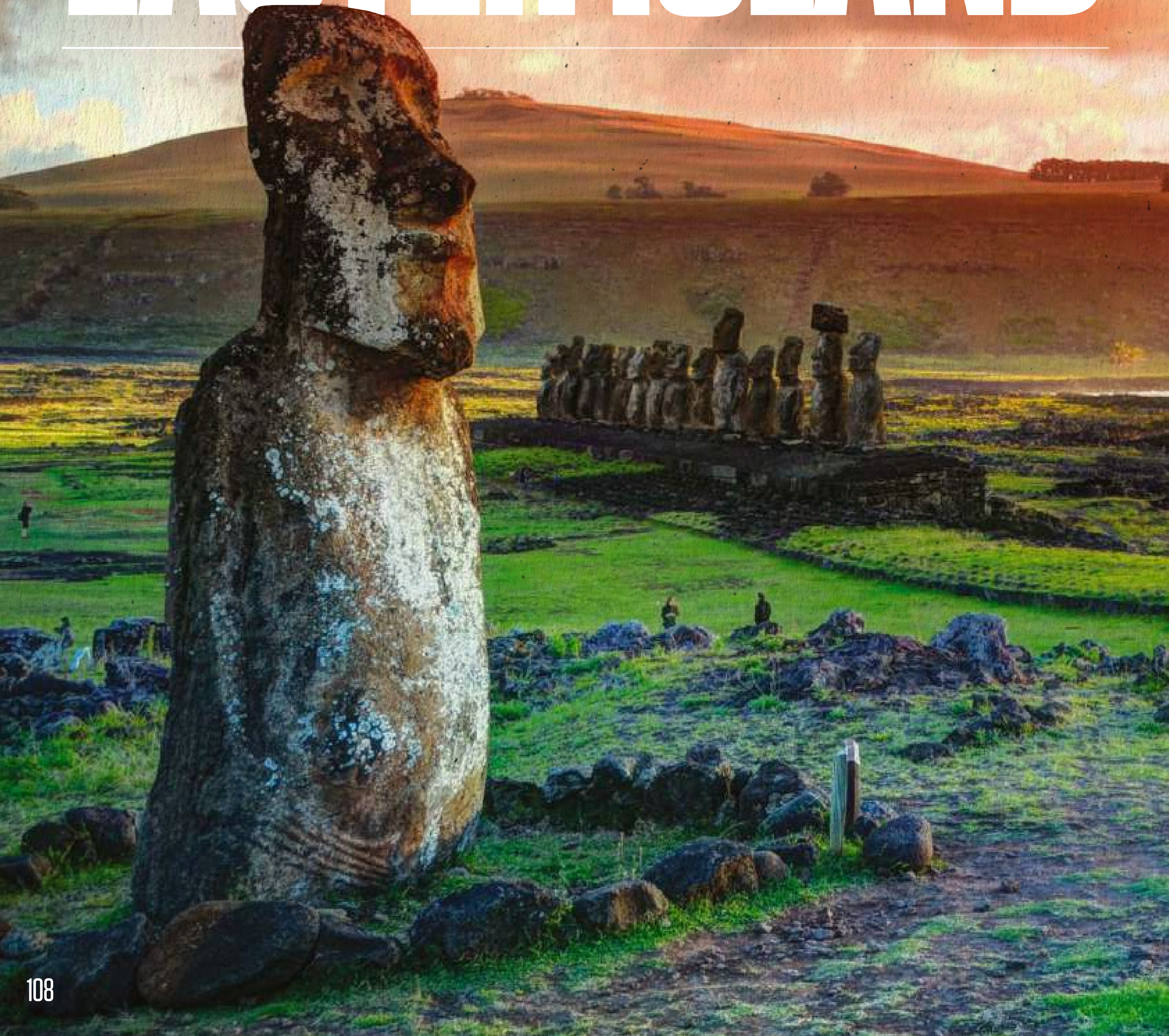
Fake sarsen stones, on rollers at the Stonehenge Visitor Centre



A 1722 engraving of the site as imagined by William Stukeley

Image Source • G.Garitan, CC BY-SA 3.0.

UNEARTHING THE MOAI OF EASTER ISLAND



Standing along the coastline like eternal guardians, the iconic stone figures of the Polynesian isle hold the secrets of Easter Island's cultural history

WRITTEN BY **DOM RESEIGH-LINCOLN**

Image Source • Getty Images

The Rapa Nui transported the moai statues across the island by 'walking' them

Image Source • Bjorn Christian Tørrissen, CC BY-SA 3.0

Ahu Tahai has some of the only moai with restored eyes

Nestled on the most south-eastern point of the Polynesian Triangle lies a small, volcanic Chilean island that has made an incredible impact on the field of archaeology and the study of ancient cultures. It doesn't have pyramids that reach to the sky or elaborate temple ruins that stretch for miles across its surface, and yet Rapa Nui - more commonly known as Easter Island - remains one of the world's most popular destinations for tourists and archaeologists alike. It's all thanks to a series of 887 statues that stand watch upon its coastline like an army of eternal guardians.

These are the moai. The sculpted, extant remnants of a once populous people who share the same name as the island that has served as their home for thousands of years: Rapa Nui. The island itself is believed to have drifted through the Pacific Ocean following the breakup of an ancient supercontinent called Pangaea about 300 million years ago. Evidence on the island suggests the first settlements were made in Anakena, a soft white-sanded beach, which now forms part of the Rapa Nui National Park. Polynesian settlers arrived by canoe in about 1200 and began to colonise the locale, with some historians even theorising that Easter Island's first settlers were in fact from South America, due to their expert seafaring navigation skills and the presence of sweet potatoes - a foodstuff that originates in the American continent.

According to oral histories passed down through the modern day Rapa Nui - who make up around 80 per cent of the island's current population - their ancient ancestors had their own class system, ruled over by a high chief known as an 'ariki'. This leader was always the eldest member of the community, with a direct blood connection to the legendary, almost mythic, first settler of the island, Hotu Matu'a. Presiding over a series of clans and social groups, it was the ariki who would commission the creation of a moai and personally oversee its journey over to the coast.

The moai were carved from the natural deposits of volcanic rock that form the composition of the island. Easter Island is a volcanic high island, consisting mainly of three extinct coalesced volcanoes: Terevaka the largest of the three, forms a large area of the island, while two others, Poike and Rano Kau, form the eastern and southern headlands and give the island its instantly recognisable triangular shape.

With such a variety of extinct volcanoes forming its history, the Rapa Nui had a myriad of materials at their disposal, and it led to a style of sculpture that was both uniform and diverse. Most of the moai on Easter Island are carved from a compressed form of volcanic ash known as tuff; another 22 are made from trachyte, 17 are carved from a brittle volcanic rock called red scoria and 13 more from basalt deposits.

The moai themselves were all carved to represent the island's deified warriors and leaders. These 'living faces' ('aringa ora') were sculpted in forms found commonly throughout ancient Polynesian art and literature - the broad, powerful nose, the prominent brow, the strong jawline and the elongated ears. That use of the word 'face' can also be a little disingenuous. We often think of the moai as a series of stone heads, jutting out of the ground, but in fact, all of them have bodies too. All of these are just as intricately carved as their heads.

The close association with faces and the moai comes from the fact that many of the most iconic photographs taken of Easter Island, show the moai situated in Rano Raraku, which served as the largest quarry for making many of the famous statues. Many of the figures were left at the quarry unfinished and abandoned. Some of them were buried by ground over time, simply because they were either incomplete and not fit to serve the same purpose as a finished moai, or because the said sculpture was still connected to the source of volcanic rock that it had originally been carved from.

In reality, most of the moai that encircle the coast of the island are standing, placed on carefully carved ceremonial platforms called 'ahu'. These were used as tombs for the people the statues represented, acting as both a mausoleum and a plinth for their eternal avatar. It isn't known how long it would have taken to carve a moai in full and transport it from a quarry to a resting site, but estimates range from months to years at a time.

A number of theories have emerged over the years regarding just how these impressive stone creations were moved, but for Terry Hunt, dean

Main Image Source • Getty Images

"THE PRESERVATION OF THE MOAI REMAINS OF THE HIGHEST IMPORTANCE FOR THIS GATHERING OF MINDS"

Explorers on Easter Island

Easter Island has a long history of interactions with the outside world, with almost all of them having a life-changing effect on its inhabitants and its ecosystem. The first westerner to set foot on the island was one Jacob Roggeveen, a Dutch explorer who was actually looking to discover Terra Australis (a hypothetical continent shown on maps from the 16th and 17th centuries – and an early rendering of Oceania) before he and his crew stumbled upon the island on 5 April 1722. Arriving on Easter Sunday, Roggeveen decided to name it Paaseiland (Dutch for 'Easter Island').

Roggeveen and his crew only spent one week on the island, but they made some fascinating observations while they were there, including witnessing the native people worshipping giant stone faces and a number of mysterious 'white men' with slashed earlobes that hung to their shoulders. They took a rough census of the peoples they encountered, estimating the island's population was between 2,000 and 3,000.

It would be almost half a century before another western soul stepped foot on the island, with the arrival of the Spanish in 1770. Two Spanish ships, San Lorenzo and Santa Rosalia (sent by the viceroy of Peru, Manuel de Amat, and commanded by Felipe González de Ahedo) arrived on 15 November and spent five days among the natives.

The Spanish used most of their time to extensively catalogue the entire coast of the island, eventually naming it again as Isla de San Carlos, and claiming it in the name of the Spanish king, Charles II.

Four years later in March 1774, British explorer and captain James Cook arrived on the island as part of a return trip to New Zealand. Cook himself was too ill at the time to spend that much time on shore, but those that did reported a relatively poor and uncultivated land. A number of the large stone statues were reported as having crumbled into ruin. Some areas were used for growing crops, which were said to be mainly for sugar cane, bananas and sweet potatoes. Cook estimated the island's population to have been around 700.

A number of other westerners visited the island in the years to come, including the French explorer Jean François de Galaup La Pérouse, who made a detailed map of Easter Island in 1786, and Norwegian archaeologist Thor Heyerdahl, who oversaw one of the most detailed and revealing archaeological studies of the island in the 1950s.

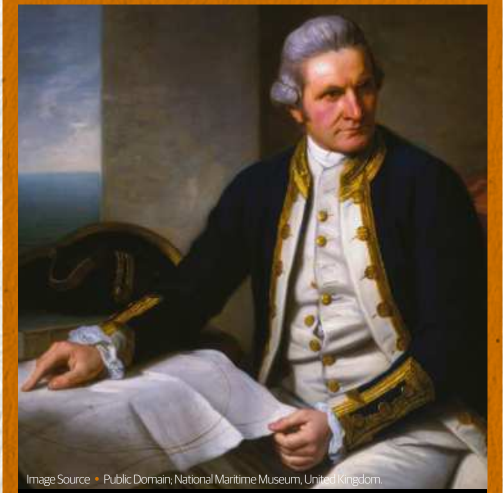


Image Source • Public Domain; National Maritime Museum, United Kingdom.

Captain James Cook, whose expedition stopped in at Easter Island, though he was not able to spend much time ashore

Image Source • Mulloy family, CC BY-SA 3.0.

Many of the moai have been re-erected and repainted by conservation projects and archaeologists from around the world

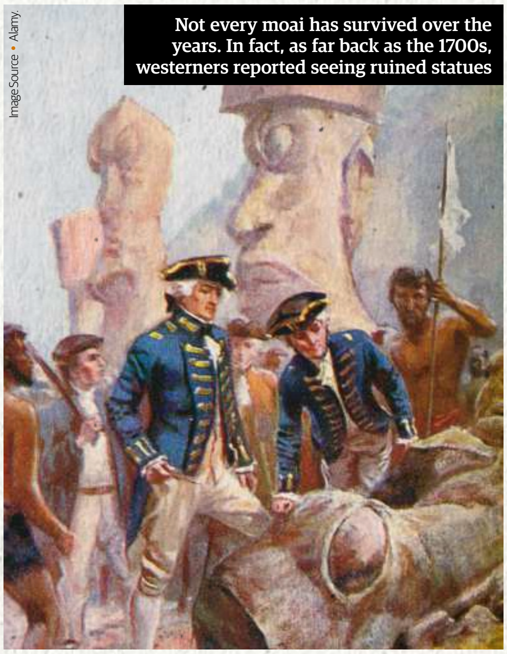


Image Source • Alamy.

Not every moai has survived over the years. In fact, as far back as the 1700s, westerners reported seeing ruined statues

and professor of anthropology at the University of Oregon, the ingenuity of the Rapa Nui led them to the most popular theory today: the walking method. "We now know that the ancient islanders transported multi-ton moai by 'walking' them. The oral traditions consistently refer to the moai as walking and our detailed studies have showed that the moai in transit retain a different, unfinished shape with a lower centre of gravity and a forward-lean when compared with the moai standing on the ahu."

Hunt was involved in a number of experiments performed on the island to simulate the primitive yet effective methods employed by the Rapa Nui hundreds of years ago. "Our replication of a road moai – one abandoned in transit – then our experiments using ropes showed the physics of transport," he added. "There is no other feasible way the large moai could have been transported. The ancient islanders figured out the form and physics to move the multi-ton moai with a small number of people using only ropes."

The finished articles were often rubbed down with pumice to smooth out any rough edges. Those bodies, whether standing tall along the coast or buried beneath the surface, also bear markings and symbols not too dissimilar to a tattoo. For instance, a curving line is one of the most common

Image Source • Alamy.

Decendants of the Rapa Nui still inhabit much of Easter Island today

The island is littered with extinct volcanoes including Terevaka, Poike, Rano Kau, Motu Nui, Orongo and Mataveri

Image Source • Getty Images.

"THE MOAI THEMSELVES WERE ALL CARVED TO REPRESENT THE ISLAND'S WARRIORS AND LEADERS"

symbols found on the moai, with archaeologists theorising that this could well represent the canoe, an object central to the Polynesian way of life. Much of the information that we now have surrounding the bodies of the moai comes from the work of American archaeologist Jo Anne Van Tilburg, who led an excavation of a number of moai back in 2012.

"What we found underneath the base of one of the statues was a signature stone, a basalt rock with an incised drawing of a crescent, or canoe motif," said Van Tilburg in an interview with University of California, Los Angeles in 2012. The archaeologist believes this special mark represented the identity of its carver, or the clan to which the carver belonged. "Over time, it seems more of these canoes were etched onto the statue in a constant repetition of identity, reasserting who they were. As the community lost a sense of identity over time, perhaps they wanted to mark these statues as their own."

While the moai may have represented one of the most important creeds of the Rapa Nui, the celebration of its elders and their deeds, the act of carving a moai was not a national service. In fact, the task of creating moai fell to a single tribe, who sold their skills to the other clans on the island. It was a monopoly, with clans paying with everything from large quantities of sweet potatoes to finely crafted tools for a moai. The larger the statue, the more important the figure and the more prestigious a clan appeared to its fellow communities, so investing in a monolithic carving was a true representation of status.

While working with a number of moai on Easter Island, Van Tilburg also discovered evidence of how their ancient creators managed to manoeuvre the stone sentinels so they could be carved in full. "We found a round, deep post hole into which the Rapa Nui had inserted a tree trunk," commented Van Tilburg. She also located proof that the Rapa Nui used ropes to help them carve the statues after some were found in the island's quarry. "We found a rope guide that was actually carved into the bedrock near the statue. The Rapa Nui used the tree trunk to raise the statue upright. Before the statue was fully up, they carved its front, and once it stood erect, they finished the back."

The moai were, and continue to be, an important representation of spirituality and religion on Rapa

A painting of Easter Island by Pierre Loti, a naval officer and novelist, in 1872

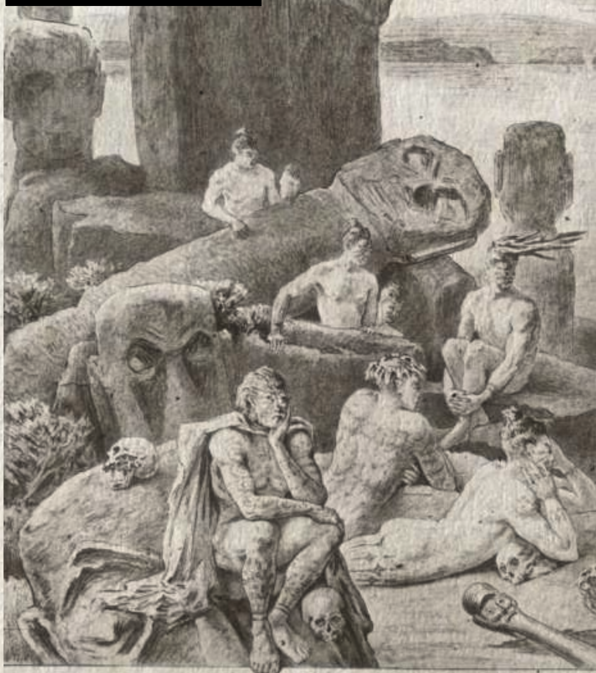


Image Source • Public Domain; Pierre Loti.

Nui. The elders chosen to be buried beneath a moai were effectively deified and became vessels for worship with a given clan. When Danish explorer Jacob Roggeveen – the first westerner to set foot on Easter Island – arrived, he witnessed first-hand how these impressive creations were of vital spiritual importance.

"The people had, to judge by appearances, no weapons; although, as I remarked, they relied in case of need on their gods or idols, which stand erected all along the sea shore in great numbers, before which they fall down and invoke them," Roggeveen observed in his ship's log. "These idols were all hewn out of stone and in the form of a man, with long ears, adorned on the head with a crown, yet all made with skill: whereat we wondered not a little."

"A clear space was reserved round these objects of worship by laying stones to a distance of 20 or 30 paces," Roggeveen added. "I took some of the people to be priests, because they paid more reverence to the gods than did the rest; and showed themselves much more devout in their ministrations. One could also distinguish these from the other people quite well, not only by their wearing great white plugs in their ear lobes, but in having the head wholly shaven and hairless."

Roggeveen's account also reveals a startling piece of information regarding the Rapa Nui and their relationship with the moai: namely that these stone statues would sometimes be torn down and their resources recycled for use with other moai. This places a fascinating temporal light upon these stone statues, showing that the moai of forgotten or less prominent figures were either abandoned or cannibalised with the advent of new deified figures.

Today, the attitude to the moai could not be any more different. Between the Polynesian people of Easter Island, the Chilean government and a covenant of independent conservation organisations, work has been under way to conserve and understand these monuments for decades. In 1967, the Chilean government and the World Monuments Fund helped to create the Easter Island Committee, to restore ahu in regions such as Ahu Tahai, as well as conducting topographical surveys of the entire island. The moai in this region, and the ceremonial centre at Tahai, now constitutes an integral part of the Rapa Nui National Park, which was later designated by UNESCO as a World Heritage Site.

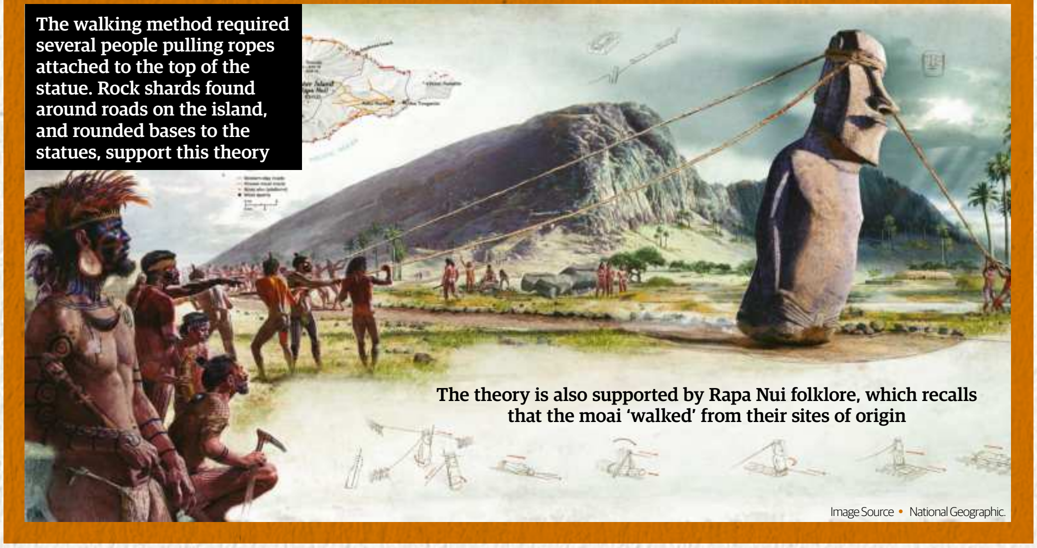
The preservation of the moai remains of the highest importance for this gathering of minds, a fact compounded all the more by the slow deterioration of these ancient stone statues. Back in 2009, the Archaeological Institute of America (AIA), North America's oldest and largest organisation devoted to the world of archaeology, selected the moai of Easter Island and the Rapa Nui National Park as its second site preservation project. Alongside one of the most active conservation projects working on the island, the Easter Island Statue Project (EISP) continues to work on new ways to restore and protect the volcanic stone used to build the moai.

It is these projects that have helped to protect and restore the moai, preserving one of the world's most fascinating and majestic archaeological sites. It might be a little remote, but like any site worth seeing, Easter Island is a locale worth experiencing in person. From the Rapa Nui National Park to the hundreds of moai that pepper the coasts of the island, Easter Island remains a cultural and historical wonderland like no other.

How the moai moved

We unlock the two most popular theories for how the iconic stone totems were moved into place around Rapa Nui

The stone moai have long represented the culture and history of Easter Island and its people, but they also stand as a testament to the engineering prowess of their ancient ancestors. So how did the Rapa Nui people move these incredibly heavy carved blocks across the island and into specific locations? Two theories currently exist, one of which, the 'wooden sledge' theory, served as the most popular version up until the last few years, when a new interpretation – the 'walking method' – came into favour. Rather than relying on a sledge setup to transport the giant statues, certain theorists believe that ropes were tied around the head of each statue, with teams on either side pulling the statue back and forth along a shallow dug track. Due to the rounded bottom of each sculpture, the walking method could have enabled the ancient islanders to move the statues gradually from the quarry to their resting place.


The walking method required several people pulling ropes attached to the top of the statue. Rock shards found around roads on the island, and rounded bases to the statues, support this theory

The theory is also supported by Rapa Nui folklore, which recalls that the moai 'walked' from their sites of origin

Image Source • National Geographic.

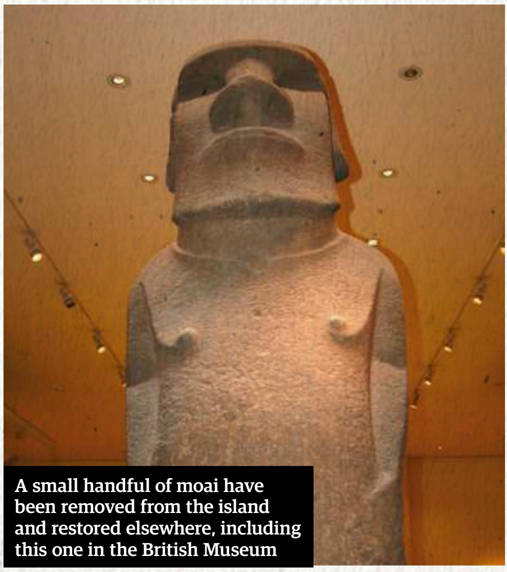

A small handful of moai have been removed from the island and restored elsewhere, including this one in the British Museum

Image Source • Fallschirmjäger, CC BY-SA 3.0.

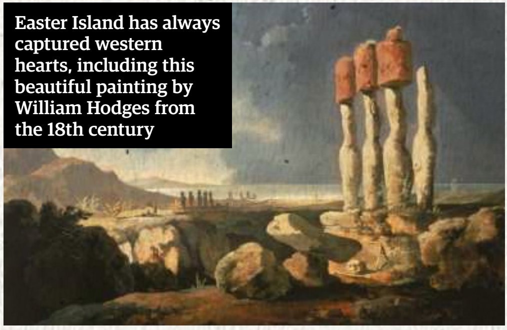

Easter Island has always captured western hearts, including this beautiful painting by William Hodges from the 18th century

Image Source • Public Domain; Das Bild ist älter als 150 Jahre, der Maler ist 1797 gestorben.

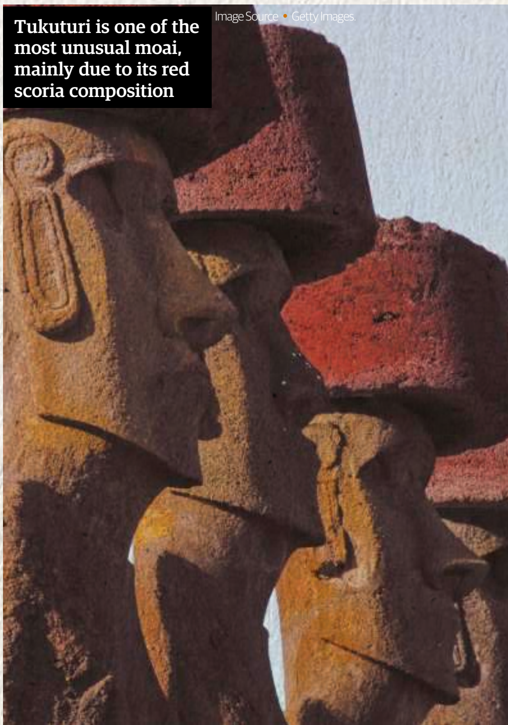
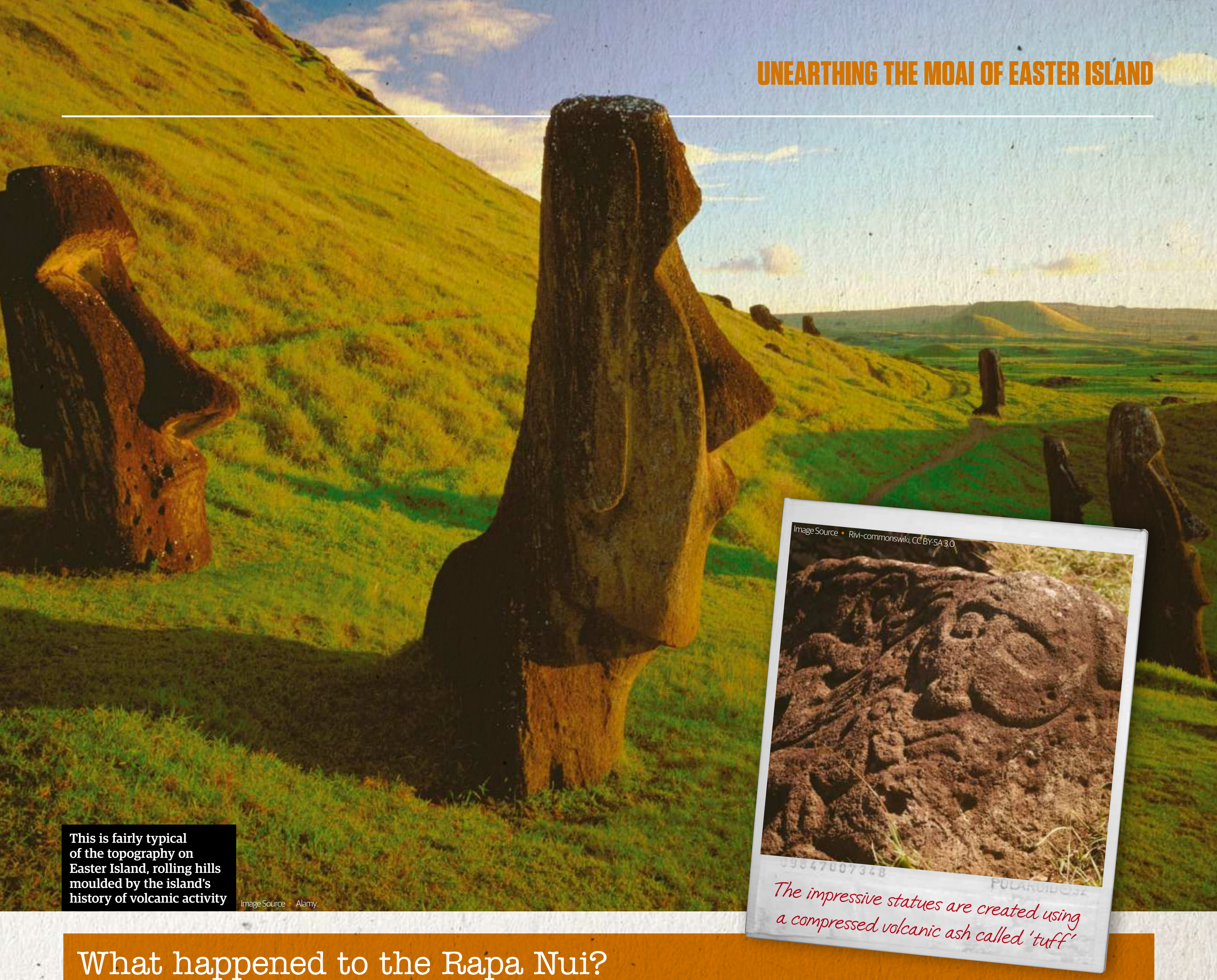

Tukuturi is one of the most unusual moai, mainly due to its red scoria composition

Image Source • Getty Images



This is fairly typical of the topography on Easter Island, rolling hills moulded by the island's history of volcanic activity

Image Source • Alamy.

Image Source • Rivi-commonswiki, CC BY-SA 3.0

The impressive statues are created using a compressed volcanic ash called 'tuff'

What happened to the Rapa Nui?

A mystery that has eluded historians for over a century, the fate of the Rapa Nui has recently been reassessed, leading to some exciting new theories being revealed

For years, one prevailing theory has surrounded the fate of the Rapa Nui – the people that thrived on Easter Island and created its incredible, totemic tributes of stone – a theory of blood, mass murder, civil strife and devastation. A theory that the Rapa Nui depleted its resources too low, created a social divide that tore its society apart and eventually led to the very civilisation's downfall. Much of that theory comes down to another ancient remnant of Easter Island's past – the mata'a.

The mata'a are stone implements that have long thought to have been deadly weapons used in the civil war that purportedly ripped the Rapa Nui apart. However, closer analysis of these weapons, published in the journal Antiquity, has cast considerable doubt on this long-accepted theory. Take the shapes of these objects, for example, with some square, some curved and some even triangular, it's clear the mata'a would not have made good weapons. Most were also too thick and asymmetrical to work as powerful implements for piercing and cutting.

This theory is given even more weight when you consider there are no other signs of widespread warfare – if there were waves of killings, then where are the mass graves, filled with bodies marked with head trauma? No such findings exist. This analysis seems to debunk the most compelling evidence for mass warfare.

A new theory based on findings made in early 2016, lays out a slightly different fate for the island's people. Studies published in Frontiers In Ecology And Evolution came to a more nuanced conclusion, considering a range of factors that destroyed the community, rather than coming down on the side of any one in particular. The Frontiers study referred to new developments in techniques for the analysis of sedimentary sequences, DNA analysis of food remains and the Rapa Nui descendants on the island today. They suggested that the evidence for the main existing theories – overuse of resources, civil war and the effect of diseases brought from Europe – should be considered together to create a fuller view, with the interpretations being 'complementary rather than incompatible'.

The research found that a cycle of droughts and rainfall might have worn down the society and forced some, or many, of the island's people to find shelter elsewhere. While it may not be as striking a fable as the previous theory of selfish deforestation, this new theory still has its own moral – that we live at the hands of our climates and change can devastate a civilisation forever.

The murder of one of the most feared gangsters in the country sparked decades of mystery about who pulled the trigger

Image Source • Magical World, Flickr, CC BY-SA 2.0.

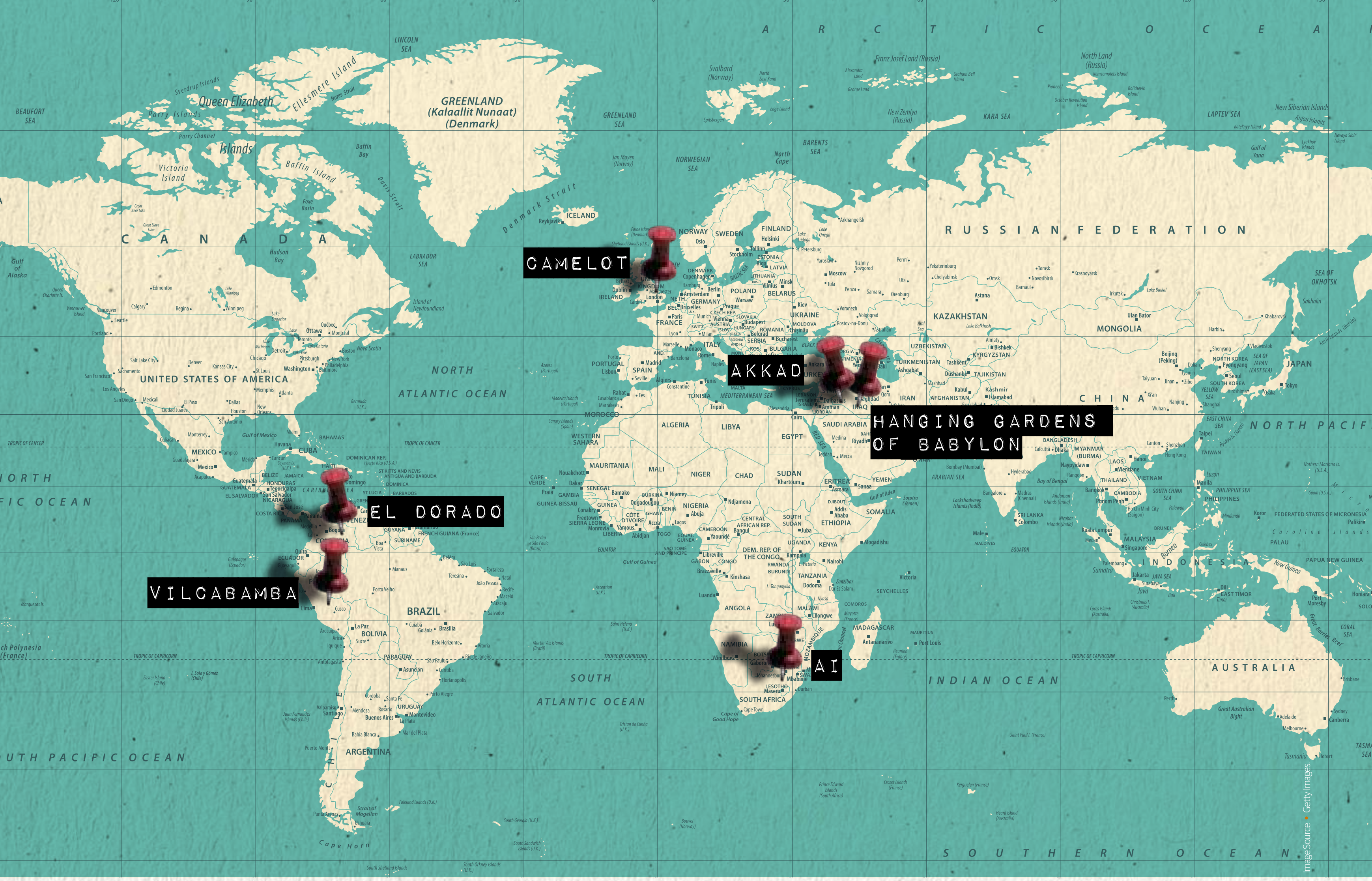


Image Source • Getty Images

LOST CITIES

Take a trip to some of history's lost and rediscovered cities

WRITTEN BY **KATHARINE MARSH**

We don't know everything from history - we never will, it's impossible. There's so much that's been destroyed, either on purpose or by accident, but this doesn't just pertain to books and letters. Entire cities have vanished from maps, or turned out to be something different altogether. Indeed, some of these cities never actually existed at all - legends often evolve into a sort of pseudo truth, causing people to believe things that never happened.

But some of the cities *did* exist, and have been lost to the mists of time. But sometimes they aren't lost forever. Archaeologists searched for Troy for years before finally striking lucky in Turkey. Machu Picchu, though once forgotten, was rediscovered in 1911. Even Pompeii, now infamous for its destruction by Mount Vesuvius, was completely forgotten about for hundreds of years as it lay buried under the ash.

So here are some of those places. We don't know where some of them are, and some of them may have never been real. But how will we ever know the truth behind the mysteries if we don't keep looking?

Image Source • Mike Peel CC-BY-SA 4.0

The Winchester round table can be seen in the Great Hall in Winchester, Hampshire

CAMELOT

The search for the legendary court of King Arthur

It's a name almost as old as England itself, and when you mention 'Camelot' it's hard not to picture the infamous King Arthur and his gallant knights sat at the Round Table. While people still debate whether or not the tales were true, others have set about looking for the fort of Camelot, and there are several possible locations.

The first possible candidate is Caerleon in south Wales, and this was put forward by both Geoffrey of Monmouth and Chrétien de Troye, the 12th-century French poet. But there's more evidence than that - Caerleon was home to a Roman fort, and with some believing Arthur to have been a Romano-British leader fighting against the invading Anglo-Saxons, this location would check out.

Arguments have also been made for Cadbury Castle near Yeovil in Somerset. An Iron Age hill fort, it's thought to have been in use after the Romans left Britain in the 5th century. Local legends talk of King Arthur and his knights there, and excavations have shown that the defences were refortified and that the fort became larger than any other known contemporary fort. Pottery shards from the east Mediterranean were also found during the digs, hinting at wealth and trade that points towards this being the home of a ruler or king… could this be Arthur's castle?

But then another castle vies for the title, this time at Tintagel in Cornwall. Geoffrey of Monmouth's *Historia Regum Britanniae* puts Arthur's conception here, but there's some more solid written evidence. In the late 1980s, a 1,500-year-old piece of slate was uncovered with two Latin inscriptions on it, with one reading: 'Artognou, father of a descendant of Coll, has had [this] made.' Artognou is Latin for the English name Arthnou and, according to Geoffrey of Monmouth, King Cole was one of Arthur's ancestors, so it seems as though Tintagel is a strong contender for Camelot… or it would be if it hadn't been built a few centuries after Arthur was supposed to have existed. The meaning behind the inscription still remains a mystery.

The hunt for Camelot doesn't end there, though. Another claimant to King Arthur's court has been Winchester, in Hampshire, which was put forward by Thomas Malory, known for his telling of the Arthurian legends in *Le Morte d'Arthur*. It was once the capital of England when the Anglo-Saxon House of Wessex ruled, and hanging on the wall of the city's Great Hall is a round table, supposedly the one sat at by the legendary chivalric knights. However, this claim was quashed when carbon dating put the table's construction in the 13th century. Bang goes another theory.

Other cities have tried to claim that Arthur made his home there - Edinburgh, Colchester and Wroxeter, to name just three - but if Arthur did exist, it's nigh-on impossible to determine the exact location of his court. Could it have been at Cadbury Castle or Caerleon? Out of the many possibilities we have, those two certainly seem to be the most likely, but we'll never know for sure.

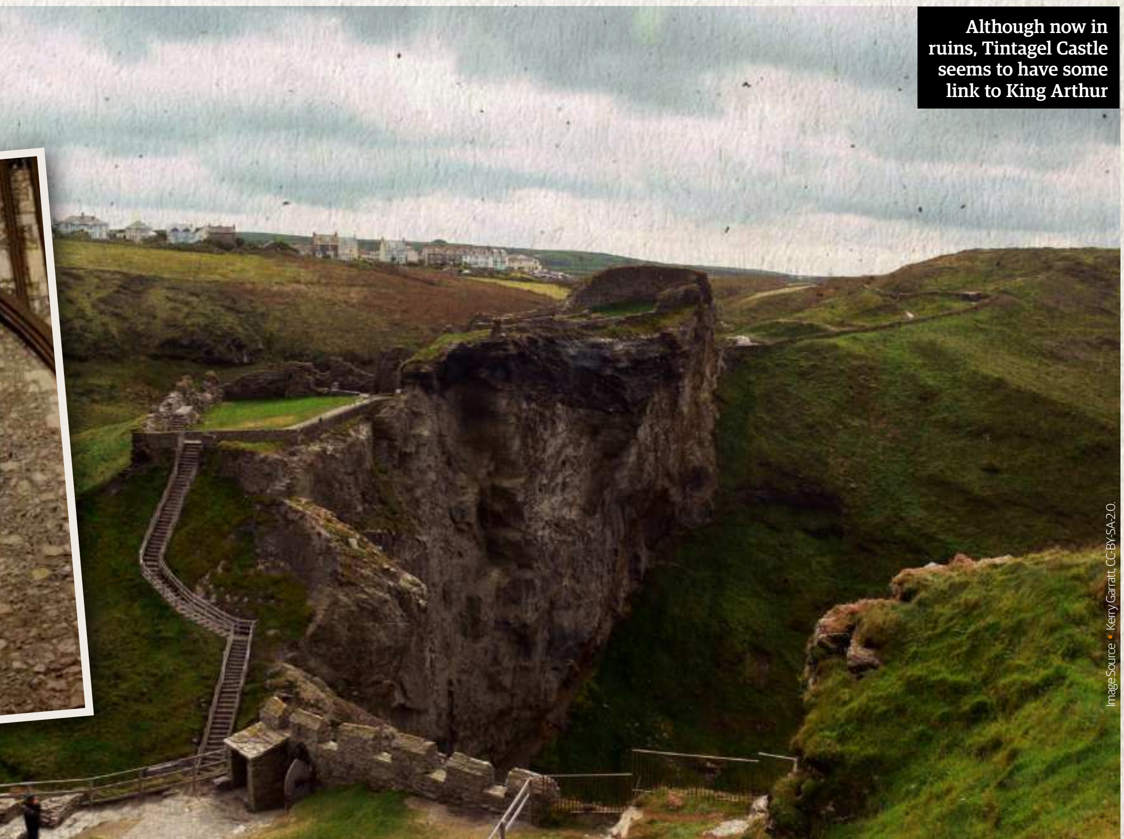

Although now in ruins, Tintagel Castle seems to have some link to King Arthur

Image Source • Kerry Garratt, CC BY-SA 2.0

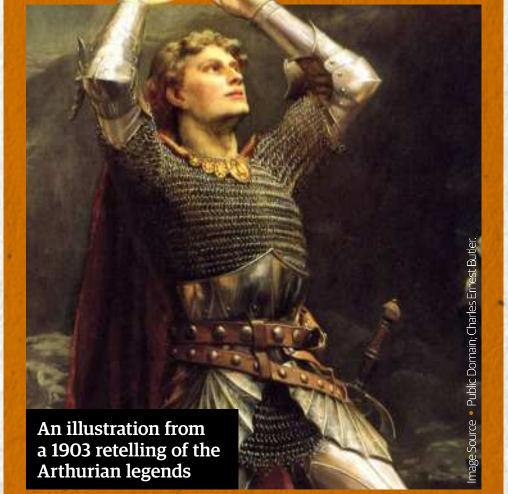

An illustration from a 1903 retelling of the Arthurian legends

Image Source • Public Domain: Charles Ernest Butler

Looking for Arthur

Did the once and future king ever really exist?

The existence of the wondrous King Arthur is a debate that has been raging for years, and it shows no signs of stopping. Was he real? If not, where did the story originate? Are some elements of the legend true?

The first known reference to the supposed monarch is in Geoffrey of Monmouth's *Historia Regum Britanniae*, or *A History of the Kings of Britain*. This built the framework for what later writers used, but Geoffrey was writing a few hundred years after the alleged fact. It also doesn't help the case for him telling the truth with his inclusion of a prophet and sorcerer called Merlin.

But then, that's how history was written in the Middle Ages – the truth was embellished and twisted. Did Geoffrey of Monmouth take something real and exaggerate it? He claimed that his writing was based on an ancient manuscript, but this source has never been found.

But if Arthur wasn't real, why do so many scholars agree that he was a warrior, leading a band of fighters against the invading Saxons and Jutes in post-Roman Britain? Why can they come to a consensus that he would have lived in the 5th or 6th century? And why were inscriptions found with his name – or a version of it – that date back 1,500 years?

If there is truth in the legend, the two have become so intertwined over the centuries that they'll probably never be separated. Our only hope is to keep searching for clues, and in the meantime enjoy the stories that have been handed down from generation to generation of the once and future king who will return to Britain when we need him most.

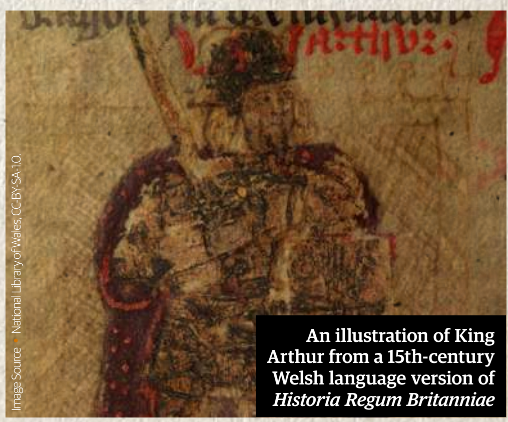

An illustration of King Arthur from a 15th-century Welsh language version of *Historia Regum Britanniae*

Image Source • National Library of Wales, CC BY-SA 1.0

THE HANGING GARDENS OF BABYLON

Uncovering the truth behind the ancient wonder

There were seven wonders of the ancient world, but there's a chance that one of them didn't actually exist. The Hanging Gardens of Babylon, which were supposedly built in Babylon, the capital of the Neo-Babylonian Empire, were a gift from King Nebuchadnezzar II to his wife, Amytis, who missed the greenery of her homeland now that she was in the desert of what is now Iraq. Berossus of Kos, writing around 290 BCE, described high stone terraces that were like mountains and held large trees and flowers - it was supposed to be a truly magnificent place.

However, the only written accounts we have of these supposedly beautiful gardens are in Greek or Latin - nothing survives in cuneiform, despite thousands of tablets being found and examined. That's a pretty damning indictment on the gardens' existence, as we have access to an enormous number of records from Nebuchadnezzar's reign. The mystery deepens when we discover that there was no queen named Amytis in Babylonian records. But with so many people writing about them, perhaps the gardens existed anyway and they just got confused about their creation?

This is when we come to the archaeology - surely there would still be some trace of something this splendid? So far, there's nothing. Excavations began at Babylon in the early 20th century, and there's no concrete proof of any gardens mentioned by Strabo, Josephus and Philo. It's possible that some evidence could exist under the Euphrates River, which used to flow a little east of its current position, but as this area can't safely be excavated at the moment, that idea has been put on the back burner. Some historians have suggested that this is because the gardens may have actually been in Nineveh, the capital of the Assyrian Empire, as Ancient Greek writers often confused the two cities. Others say that the gardens were just Nebuchadnezzar's palace, and this is fast becoming the prevailing theory. But many of the Greek writers were putting their equivalent of pen to paper hundreds of years after the fact. Diodorus Siculus wrote in the 1st century CE about terraces sloping upwards about 20 metres, but had he ever actually been to Babylon?

Will we ever find out if the Hanging Gardens of Babylon truly existed? Only more excavations will give us the answer, but perhaps one day we'll know the truth.

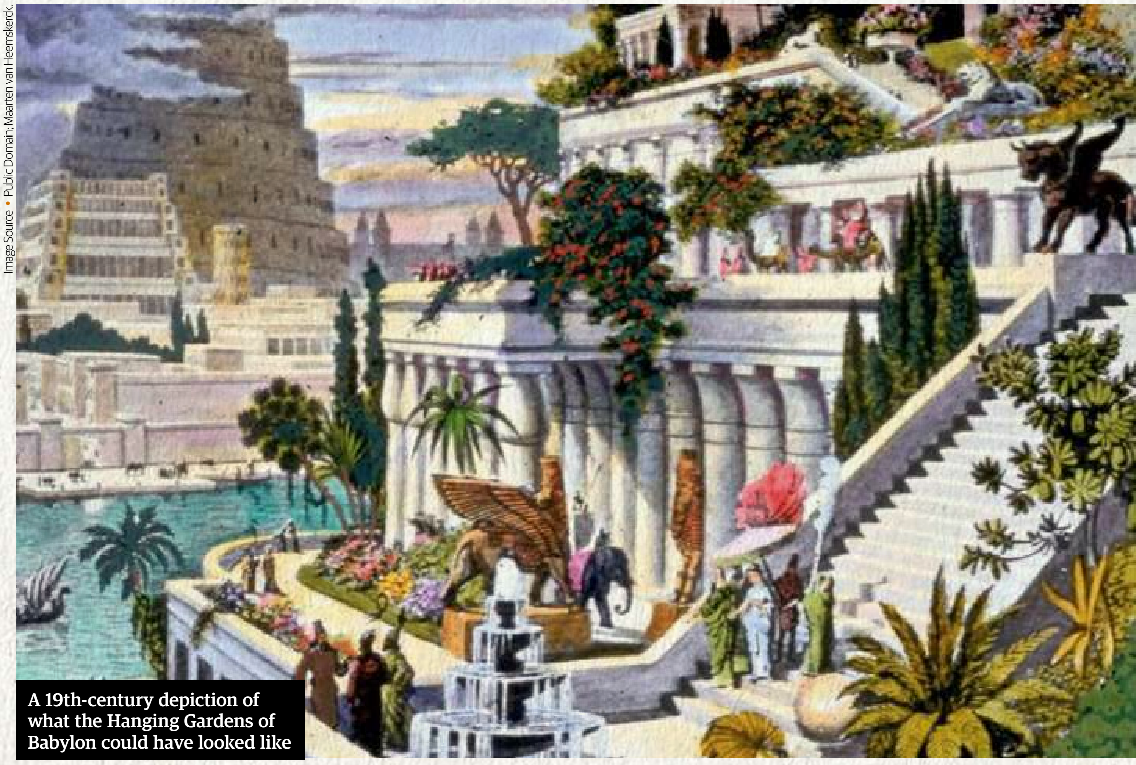


Image Source • Public Domain; Maarten van Heemskerck.

A 19th-century depiction of what the Hanging Gardens of Babylon could have looked like

> "THE ONLY WRITTEN ACCOUNTS OF THESE BEAUTIFUL GARDENS ARE IN GREEK OR LATIN. NOTHING SURVIVES IN CUNEIFORM"

Image Source • Osama Shukir Muhammed Amin FRCP(Glasg), CC-BY-SA 4.0.

The ruins of Babylon in modern-day Iraq

AI

Do we really know where the biblical city once stood?

Many cities mentioned in the Bible still exist today - Jerusalem, Bethlehem and Damascus, to name but a few. However, some have disappeared. One such city is Ai, which features in the Book of Joshua in the Hebrew Bible.

Thanks to the Bible, we know a little about Ai. It was originally an unwalled village built around 3000 BCE, growing in size until the mid-to-late 2000s BCE. Eventually enjoying life as a royal city, it was conquered by the Israelites under their leader, Joshua, hence its appearance in the Book of Joshua. But for all that we know about Ai, where is it?

The most likely answer is that the ruins of Ai are currently buried under the remains of another city, At-Tall, which is about a mile and a half east of Bethal, or modern-day Baytin on the West Bank. A French team of archaeologists digging in 1933-35 found a large temple and other remains that can be dated to the right time, so it seems like the most likely location, and this does seem to match up with what the Bible says. But will we ever know for sure? Maybe if more evidence is uncovered, we'll be able to say for certain.

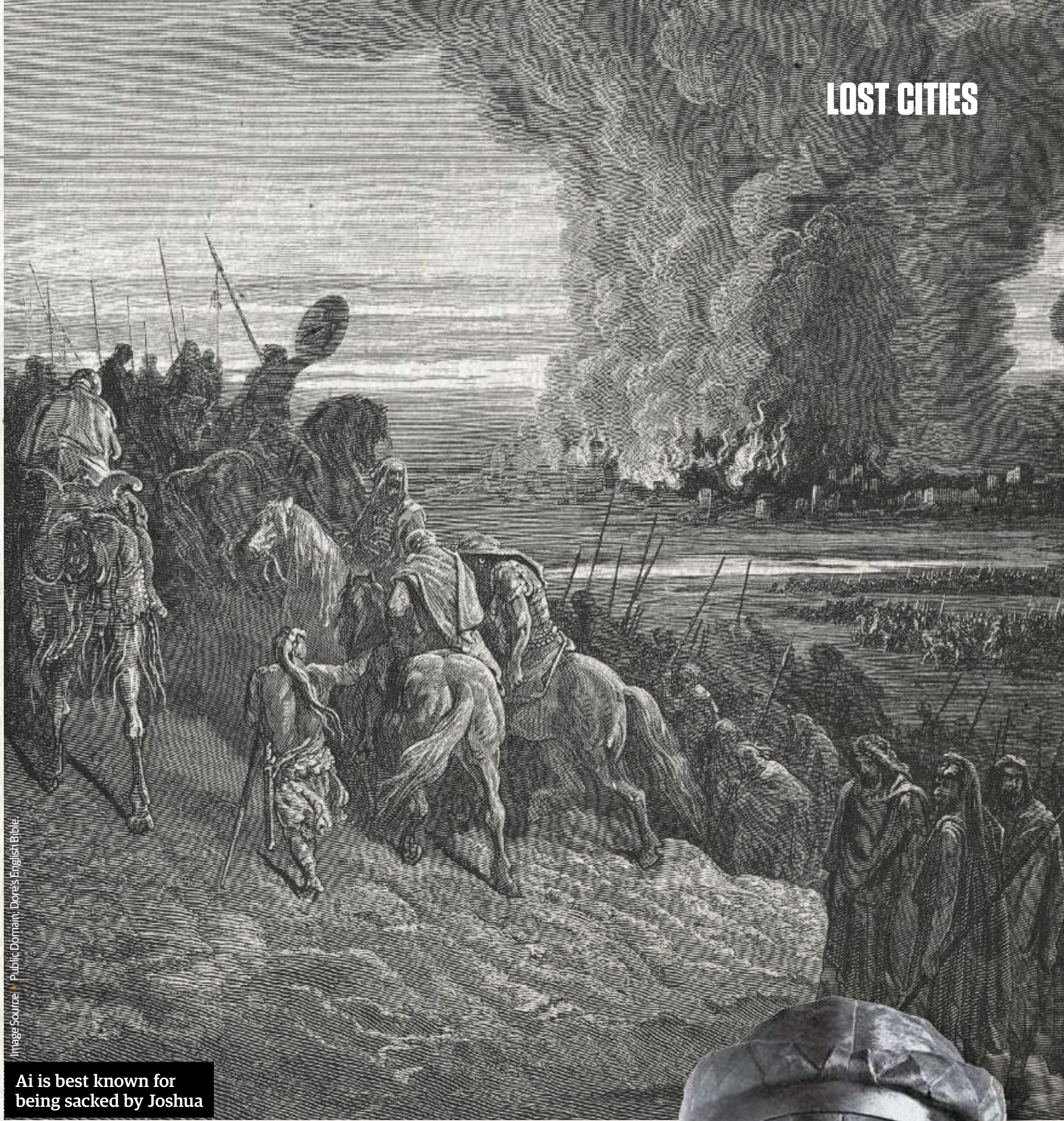


Image Source • Public Domain: Doré's English Bible.

Ai is best known for being sacked by Joshua

AKKAD

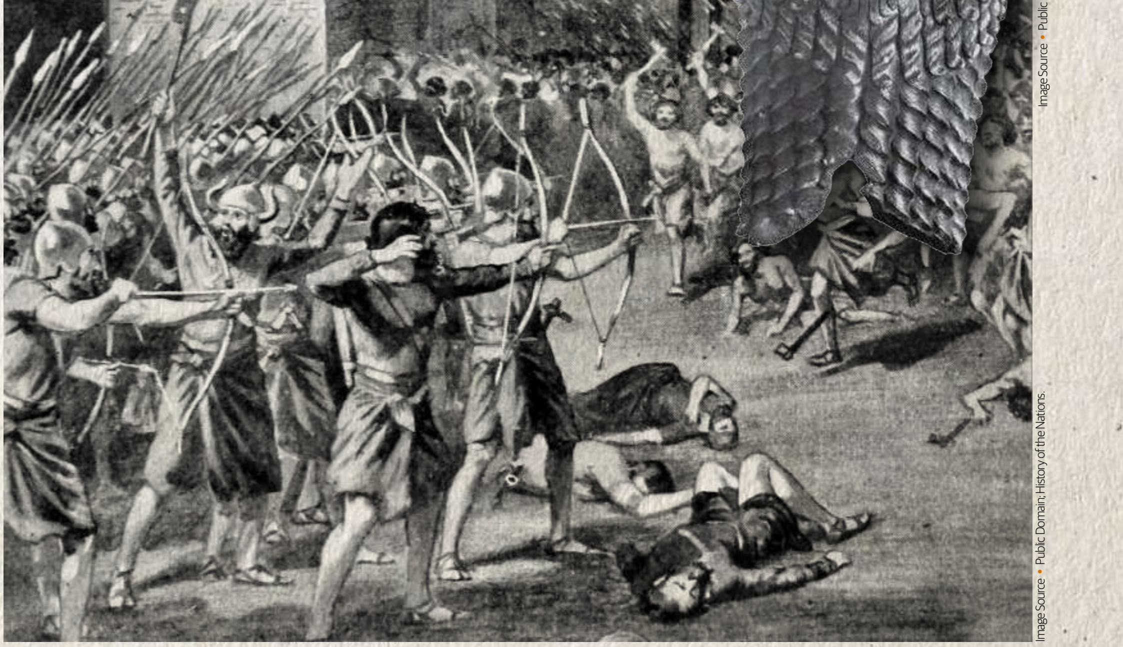
Is the seat of the first ever empire lost forever?

It holds a special place in history as the capital city of the world's first empire, but today no one knows where Akkad actually was. We do know that it was located somewhere in ancient Mesopotamia, but after that history gets a little hazy. Most scholars can agree that it was situated on the Euphrates River's west bank, maybe between Sippar and Kish, or between Mari and Babylon. But who knows, perhaps it was nowhere near any of those four cities?

What we can say with certainty is that Akkad was founded by Sargon the Great, who ruled from 2334 to 2279 BCE. It was Sargon who unified Mesopotamia, and four rulers followed him: Rimush, Manishtusu, Naram-Sin and Shar-Kali-Sharri. But despite the impressive achievement of 142 years of continuous rule from the same dynasty, Akkad fell into an inevitable decline. Famine and invasions saw the collapse of the empire, and the collapse of the city of Akkad, but we don't know what ultimately happened to it. It's unlikely that we ever will, but Akkad will always be remembered as the seat of the first empire.

This bronze head represents either Sargon or Naram-Sin of Akkad, and was unearthed in Nineveh (now in Iraq)

Image Source • Public Domain: Iraqi Directorate General of Antiquities



The Gutians capture an Akkadian city - this was part of the Akkadian downfall

Image Source • Public Domain: History of the Nations.

VILCABAMBA

Inside the once-lost Inca city

How can you lose a city for 300 years? In Peru, it's probably something to do with the Spanish invasion of the 16th century, and that's certainly true of Vilcabamba, which sits in the jungle on the banks of the Chontabamba River. An Inca settlement that has been overshadowed by Machu Picchu today, Vilcabamba is ready to be explored now that we've found it again.

When the Spanish conquered the Inca capital of Cusco in 1533, it would take another 39 years for them to reach Vilcabamba. It was the Inca Empire's last stand against the conquistadors and, as history will show you, the conquistadors won. Why did it take so long for the Spanish to get there? Because of the city's remote location. High up in the Peruvian Andes, Vilcabamba was never the most accessible of places, but excavations have shown that it was occupied for much longer than originally thought. The Wari, the predecessors of the Inca, seem to have made their home here between 600 and 1100 CE.

After the Spanish invasion, Vilcabamba was left to decay deep in the Peruvian jungle and, with the Inca gone, nature moved in. Moss crept over the walls, with the original orange plaster still just about visible on some of the stonework. Thick tree roots stretched over decrepit lumps of stone that had fallen to the forest floor over the years. It was an eerie sight to behold for the explorers who found the city in 1892.

The explorers who made their way to Vilcabamba almost a century later, in the 1980s, found a similar sight: Vincent Lee, who was part of the expedition, described a jungle "so thick one could hardly see one building from the next". This isn't the case today - the Pervian government have been clearing the area ready for visitors.

But the remoteness of the city has meant one thing: it hasn't been disturbed or looted, so everything is still where it was left all those centuries ago. This could solve some mysteries rather than add to them, although there are local tales of another city that lies even deeper in the forest. Perhaps the rediscovery of Vilcabamba will encourage more explorers and archaeologists to press deeper into the Andes to see what more mysteries can be solved.

> **"IT HASN'T BEEN DISTURBED OR LOOTED, SO EVERYTHING IS STILL WHERE IT WAS LEFT CENTURIES AGO"**

Image Source • AgainErick, CC-BY-SA-3.0.

A room with a view... of the jungle. Adventurous tourists are now making the trek to Vilcabamba

Image Source • Alamy.

POLAROID
3354700734B

An American explorer rests on the stone bridge built by the Inca at Vilcabamba

EL DORADO

The European hunt for a city of gold

It was a city of gold deep in South America, and it was just waiting to be uncovered… or so Europeans believed in the late 15th and early 16th centuries. Christopher Columbus had arrived in the Americas, new treasures were waiting to be found in the New World, and there was a scramble to claim the most land. It was the perfect catalyst for a legend to be born, and that legend was El Dorado.

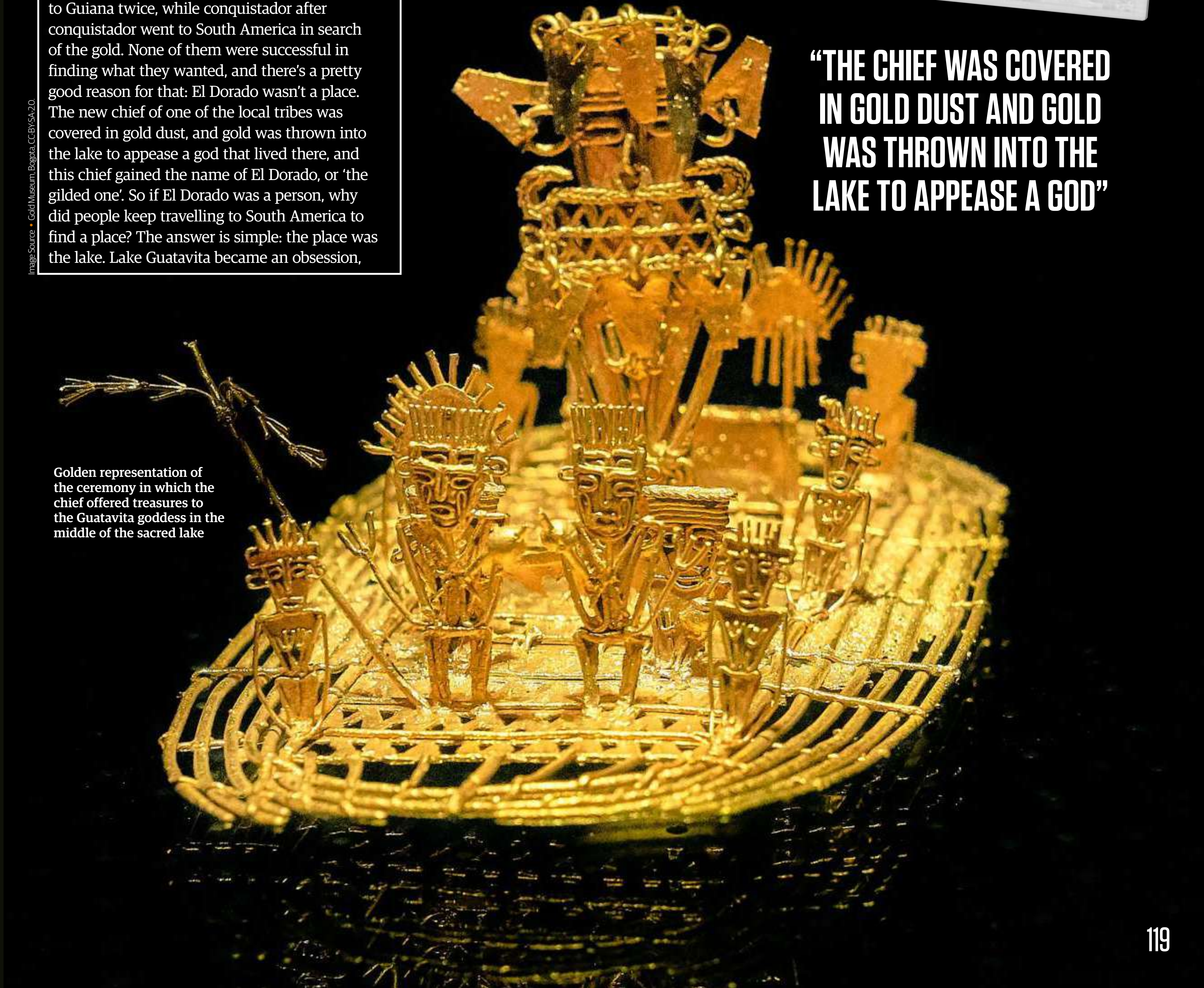
Explorers from all over Europe went looking for the treasure. Sir Walter Ralegh sailed to Guiana twice, while conquistador after conquistador went to South America in search of the gold. None of them were successful in finding what they wanted, and there's a pretty good reason for that: El Dorado wasn't a place. The new chief of one of the local tribes was covered in gold dust, and gold was thrown into the lake to appease a god that lived there, and this chief gained the name of El Dorado, or 'the gilded one'. So if El Dorado was a person, why did people keep travelling to South America to find a place? The answer is simple: the place was the lake. Lake Guatavita became an obsession, and Spaniards even tried to drain it in 1545. They found some of the gold they were looking for – hundreds of gold pieces littered the edge of the water – but the rest seemed to be just beyond reach. However, the legend of El Dorado lived on, and in 1849, Edgar Allan Poe suggested the best way to reach the legendary city: "Over the Mountains of the Moon, down the Valley of the Shadow, ride, boldly ride… if you seek for El Dorado."

Image Source • Masanalv, CC-BY-SA-3.0.

Lake Guatavita, where gold was actually found

"THE CHIEF WAS COVERED IN GOLD DUST AND GOLD WAS THROWN INTO THE LAKE TO APPEASE A GOD"

Image Source • Gold Museum, Bogota, CC-BY-SA-2.0.



Golden representation of the ceremony in which the chief offered treasures to the Guatavita goddess in the middle of the sacred lake

CURIOSITIES

Discover the codes, signals and rumours of treasure that have obsessed historians

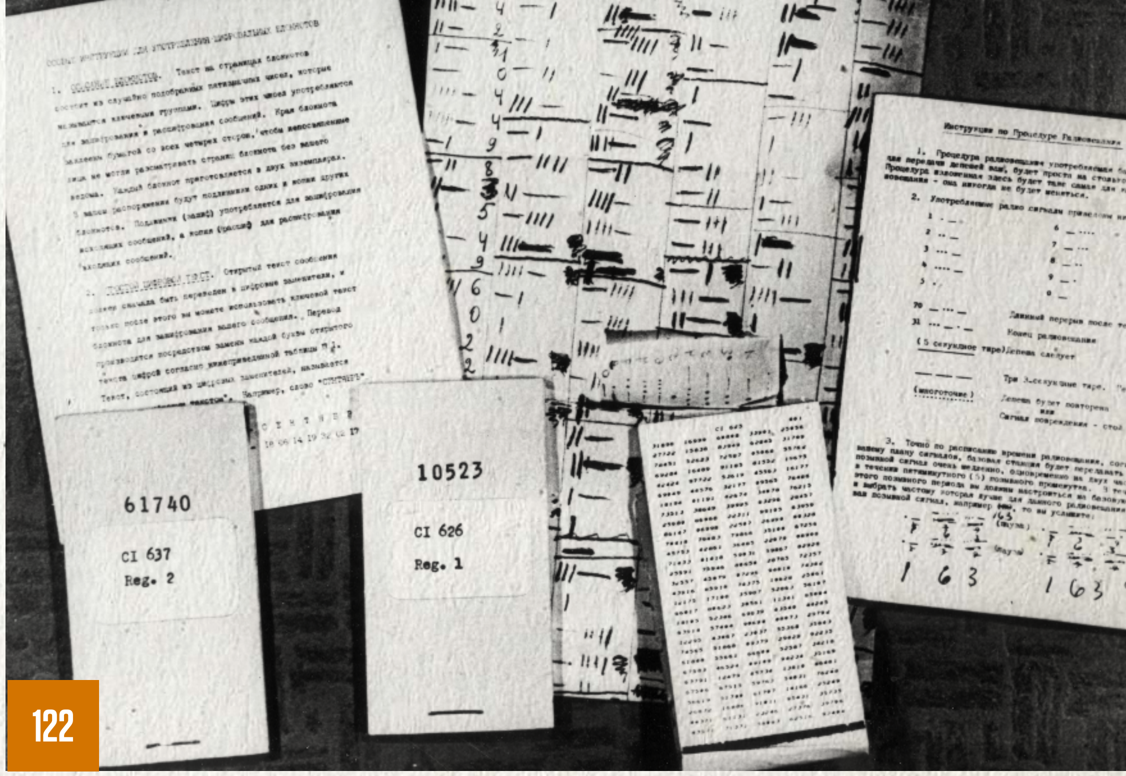
122 **CRACKING THE CODES**
Many impenetrable texts have evaded the understanding of the sharpest minds

130 **SECRET SIGNALS**
Hidden in the static of the radio are some mysterious transmissions

136 **LOST TREASURE**
Join the treasure hunters scouring the world for its legendary lost riches

124
Page 126

133



61740
CI 637
Reg. 2
10523
CI 626
Reg. 1

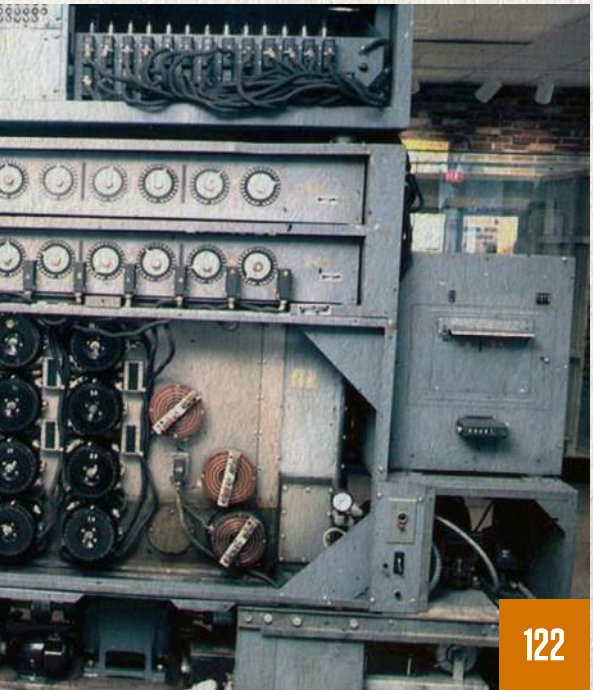
122

Page 138

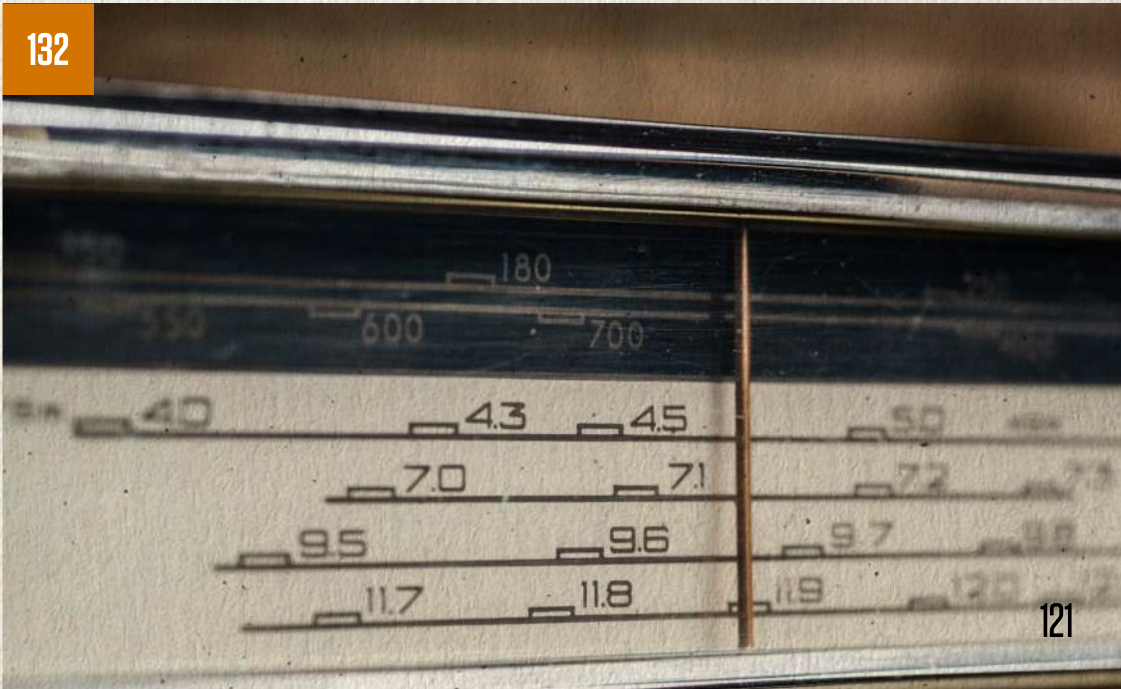
140

GALAAD
BORT
LANCELOT
PERSEVAL
LE ROY ARTVS
LE ROY CARADOS
LE ROY POIER

142

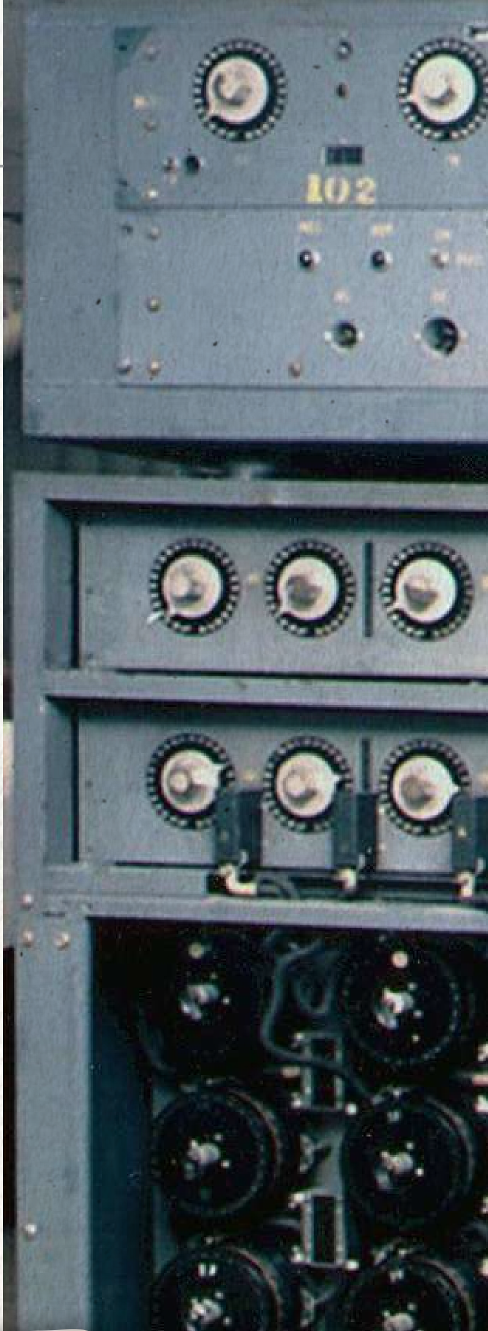


122



180
550
600
700
4.0
4.3
4.5
5.0
7.0
7.1
7.2
9.5
9.6
9.7
11.7
11.8
11.9
12.0

132



CRACKING THE CODES

Through the ages, many mysterious, often impenetrable texts and manuscripts have evaded the understanding of even the sharpest minds

WRITTEN BY **JON WRIGHT**

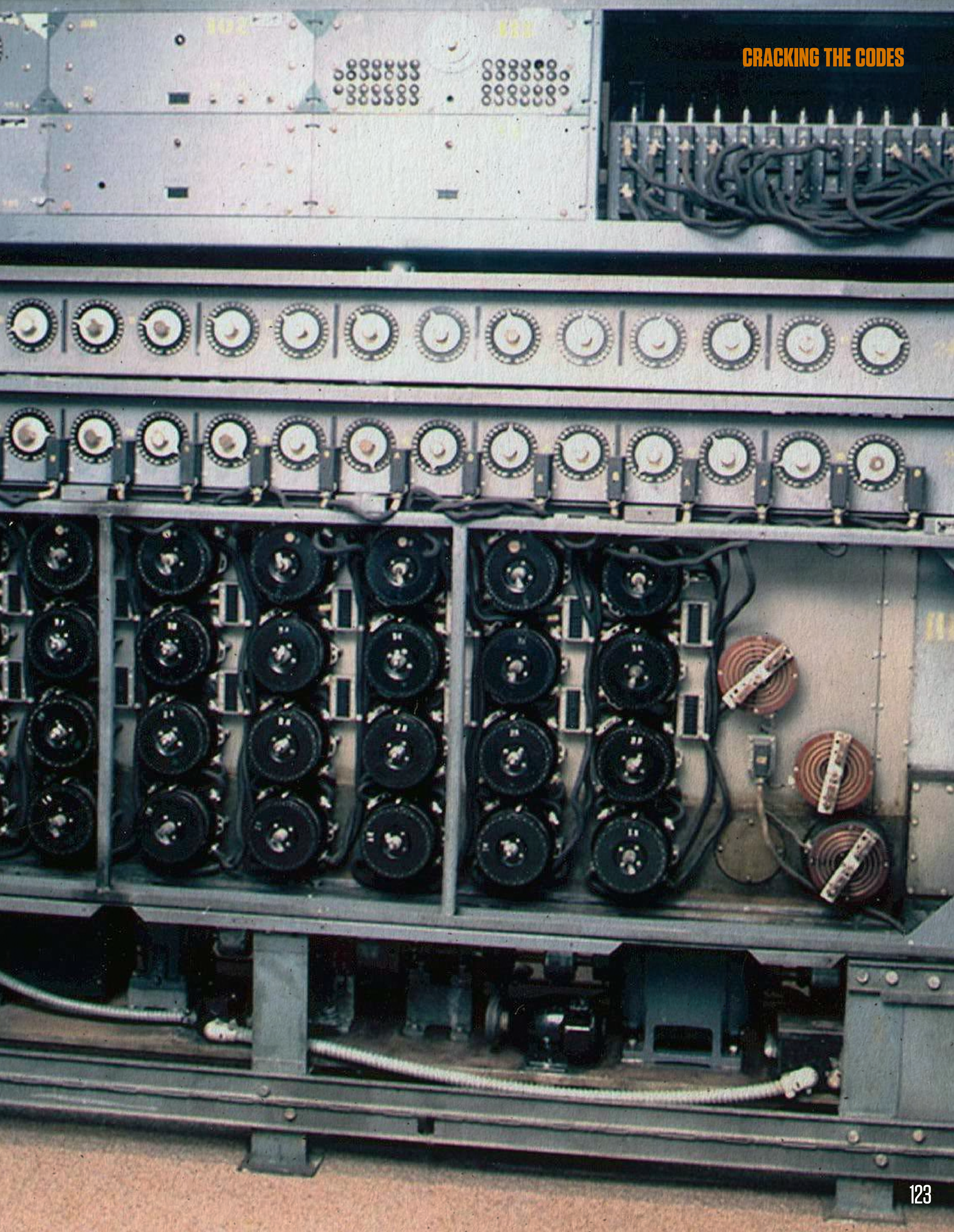
Century after century, tantalising encoded texts have cropped up and fascinated the popular, and often the scholarly, imagination. Some have been solved quickly, others have taken decades to unravel, and a few remain matters of debate to this day. The principles of cryptography can seem, in essence, quite simple, but mastering them requires enormous dedication and a lifetime of study. From strange medieval manuscripts to the ravings of serial killers, codes and cyphers have played a starring role across the range of human thought, behaviour and curiosity.

“MASTERING CRYPTOGRAPHY REQUIRES ENORMOUS DEDICATION AND A LIFETIME OF STUDY”

The Enigma machine is probably the most famous cipher machine in the world, and was of vital importance during WWII

Image Source • rman Federal Archives, CC-BY-SA 4.0. .

Main Image Source • Public Domainl; National Security Agency. .



THE VOYNICH MANUSCRIPT

If you are in search of a mystery that has left even the brightest scholars and cryptographers scratching their heads, then you can't do better than the famous Voynich Manuscript

This famous manuscript, written on vellum, has been in the safe hands of a library at Yale University since 1969. The 102 leaves (14 are missing) remain a riddle: it is a text with a language all its own and with meanings that continue to provoke heated debate. The manuscript began to attract sustained attention in the early 20th century after the bookseller and antiquarian Wilfrid Voynich acquired it from Jesuits in need of cash in 1912. The order had been going through tough times in Italy ever since the Italian unification and, while many of its literary possessions had been confiscated, a few nuggets had been safely hidden away. The bizarre Voynich Manuscript was among them and its new owner spent a good many years theorising about its meaning. Voynich sold his wares in Chicago, New York and Princeton, but he always held on to the manuscript, even inflicting his opinions about the text on hard-to-please academic audiences in Philadelphia.

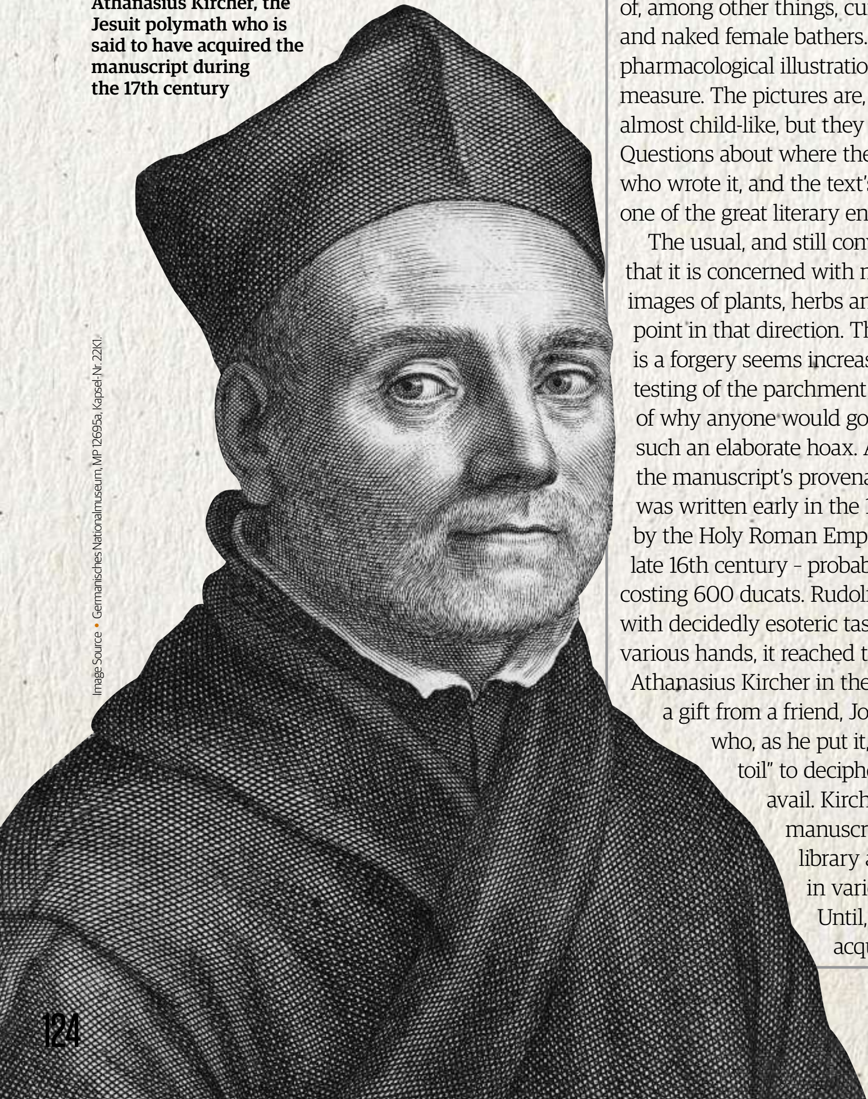

Athanasius Kircher, the Jesuit polymath who is said to have acquired the manuscript during the 17th century

Image Source • Germanisches Nationalmuseum, MP 12695a, Kapsel-Nr. 22K1.

The standard version of the manuscript's longer history, now backed up by sophisticated dating procedures, is that it was composed during the first decades of the 15th century - probably in Northern Italy, but on that we can't be certain. Others have suggested Germany, Flanders, Spain or Bohemia as its point of origin. It is a humble-looking but wildly idiosyncratic artefact. The language is, to say the least, eccentric. Strange characters and letters, odd grammatical structures and no great regard for punctuation are its hallmarks. Insertions of garbled Latin and German add to the mystery (though these may have been added later). You will also find images, in blues, greens and muddy-reds, of, among other things, curious-looking plants and naked female bathers. Astrological charts and pharmacological illustrations are thrown in for good measure. The pictures are, by any standard, lousy, almost child-like, but they clearly have a tale to tell. Questions about where the manuscript came from, who wrote it, and the text's purpose all add up to one of the great literary enigmas.

The usual, and still convincing, assumption is that it is concerned with medical matters - the images of plants, herbs and biological topics clearly point in that direction. The notion that the book is a forgery seems increasingly unlikely, given the testing of the parchment and the obvious issue of why anyone would go to the bother of staging such an elaborate hoax. A credible story regarding the manuscript's provenance is available: that it was written early in the 15th century and acquired by the Holy Roman Emperor Rudolf II in the late 16th century - probably as part of a bulk buy costing 600 ducats. Rudolf was quite the bibliophile, with decidedly esoteric tastes. After passing through various hands, it reached the Jesuit polymath Athanasius Kircher in the mid-17th century. It was a gift from a friend, Johannes Marcus Marci, who, as he put it, had "devoted unflagging toil" to deciphering the text, but to no avail. Kircher fared no better and the manuscript gathered dust in his library and then languished in various Jesuit institutions. Until, quite at random, it was acquired by Voynich.

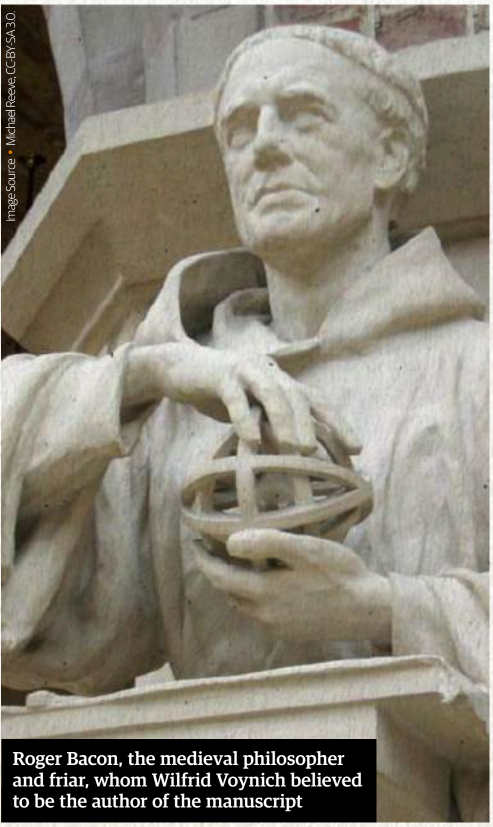

Roger Bacon, the medieval philosopher and friar, whom Wilfrid Voynich believed to be the author of the manuscript

Image Source • Michael Reeve, CC-BY-SA 3.0.

> "HOW CAN YOU DECODE SOMETHING THAT IS ALMOST WILFULLY ODD?"

As for what the manuscript says, well, that is a trickier matter. How can you decode something without any comparable text and that is almost wilfully odd? Lots of people have tried. William Friedman, who helped to crack the Japanese 'Purple' cipher during World War II, stared at the Voynich manuscript for decades but could not reveal its secrets. John Tiltman, of Bletchley Park fame, also had a go. While there is a chance that the manuscript may be a cryptographic concoction without any real meaning (albeit one that might be able to reveal something fascinating about the medieval world), some room for hope has recently emerged. Using sophisticated computer algorithms,

The code inside the manuscript has baffled historians for centuries

Image Source • Public Domain: Beinecke Rare Book & Manuscript Library, Yale University.

Image Source • Beinecke Rare Book & Manuscript Library, Yale University.

The weird and wonderful text of the Voynich Manuscript

The man who revived the puzzle

The book-dealer who reignited interest in this most mysterious of texts

Wilfrid Voynich was an efficient, well-travelled antiquarian book and manuscript seller. He started out in London during the 1890s and, in 1908, set up shop in Florence. He forged a friendship with the Jesuit Joseph Strickland and this led to the discovery of this famous manuscript. The Jesuit order, going through difficult times, sought to sell off some of its literary wares, though the Jesuits did not want to reveal their need for such unfortunate measures. Voynich was sworn to secrecy and concocted a tall tale about finding the 400-or-so books and manuscripts in a castle. He remained true to his word throughout his life. Voynich did well out of the purchase, selling the manuscripts on for decent profits in London and, following the outbreak of the First World War, in America. The text we now call the Voynich Manuscript remained in his possession and he made significant efforts to decode its meaning, recruiting the help of scholars from Harvard, the French National Library and the Royal Astronomical Society. Upon Voynich's death, the manuscript was inherited by his widow, who pursued her own investigations. The manuscript was sold on after her death and ended up in the possession of a New York bookdealer, Hans Kraus, in 1961. He had high hopes. He had bought the manuscript for $24,000 and attached a price tag of $160,000. There were no takers, and Kraus eventually donated the manuscript to Yale in 1969. It is fair to say that it would attract bids in the millions if it ever came up for auction, but that is hardly likely to happen.

Image Source • Public Domain.

Wilfrid Voynich: the man who brought the manuscript back into the limelight in the early 20th century

some scholars have asserted that the frequency of certain characters in the text and the clusters of words mean that the Voynich Manuscript is not simply a random assemblage of nonsense.

Its precise meaning is less easy to establish. The key would be to identify the source language from which it derives. The list of suggested candidates is long, including a version of mixed-up, ciphered Hebrew anagrams, Chinese, a leftover from an ancient lost tongue or a dialect stemming from the Caucasus. Even Aztec has been proposed. At the more bizarre end of the interpretative spectrum there are claims that it has something to do with the Cathars, or is a written expression of speaking in tongues, or (top of the tree of ludicrousness) a sample of writing from Atlantis.

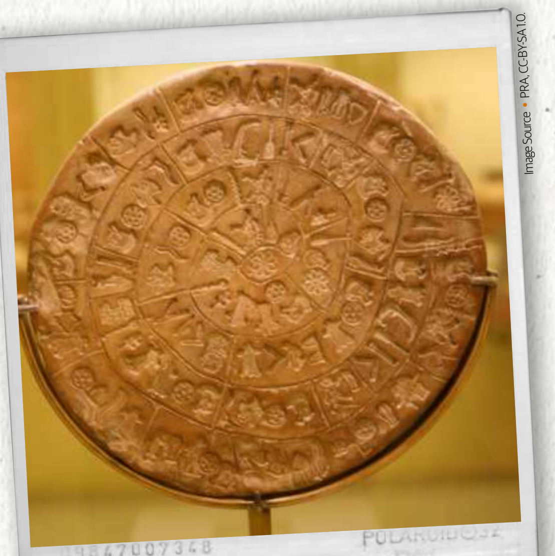
The manuscript's authorship is also something of a mystery. Ideas about the writer's identity have ranged from the medieval Franciscan scholar Roger Bacon (a theory favoured by Voynich - he referred to it as the "Roger Bacon Cipher MS" - but now largely discredited) to Leonardo da Vinci, and from the Elizabethan astrologer John Dee to various 15th-century architects and engineers. Some scholars have worked hard, for example, to demonstrate that Dee, perhaps in the company of his friend Edward Kelley, were in Prague at just the right moment to sell the manuscript to Emperor Rudolf, even noting that Dee left the city with an extra 600-or-so ducats in his pocketbook, but the notion of his authorship is exploded by the fact that carbon-dating proves the manuscript was composed between 1404 and 1438, some 100 years before Dee's birth.

The quest continues. Powerful computer programmes analyse the frequency and arrangement of symbols and compare them to 360 languages. Art historians look at the images, and botanists attempt to identify the plants. We can be fairly sure that the manuscript is authentic and it is pleasing to think of some unsung genius writing and laughing in a Florentine garret, composing an enigma that would keep scholars busy for centuries to come. But the real fascination, perhaps, does not reside in what the manuscript may or may not say, but in its ability to excite speculation - even obsession.

The manuscript that was once secured in an American bank vault is now available, for all to see, in a digitised version on the internet. As one might imagine, crackpot theories and thoughtful interpretations crop up on an almost-daily basis. When Voynich acquired it, he noted that it was, at first glance, nothing special - the vellum was mediocre and "it was such an ugly duckling compared with the other manuscripts, with their rich decorations in gold and silver." But why, then, had anyone bothered to hold on to it for so long? Perhaps, Voynich thought, this suggested that it was "a work of exceptional importance." In any event, the "blazing hearth of Voynich speculation," to borrow one scholar's phrase, looks set to roar for a good long while.

MINOAN MYSTERY: THE PHAISTOS DISC

Archaeology has unearthed many puzzles, but few compare with an ancient clay disc found in Crete

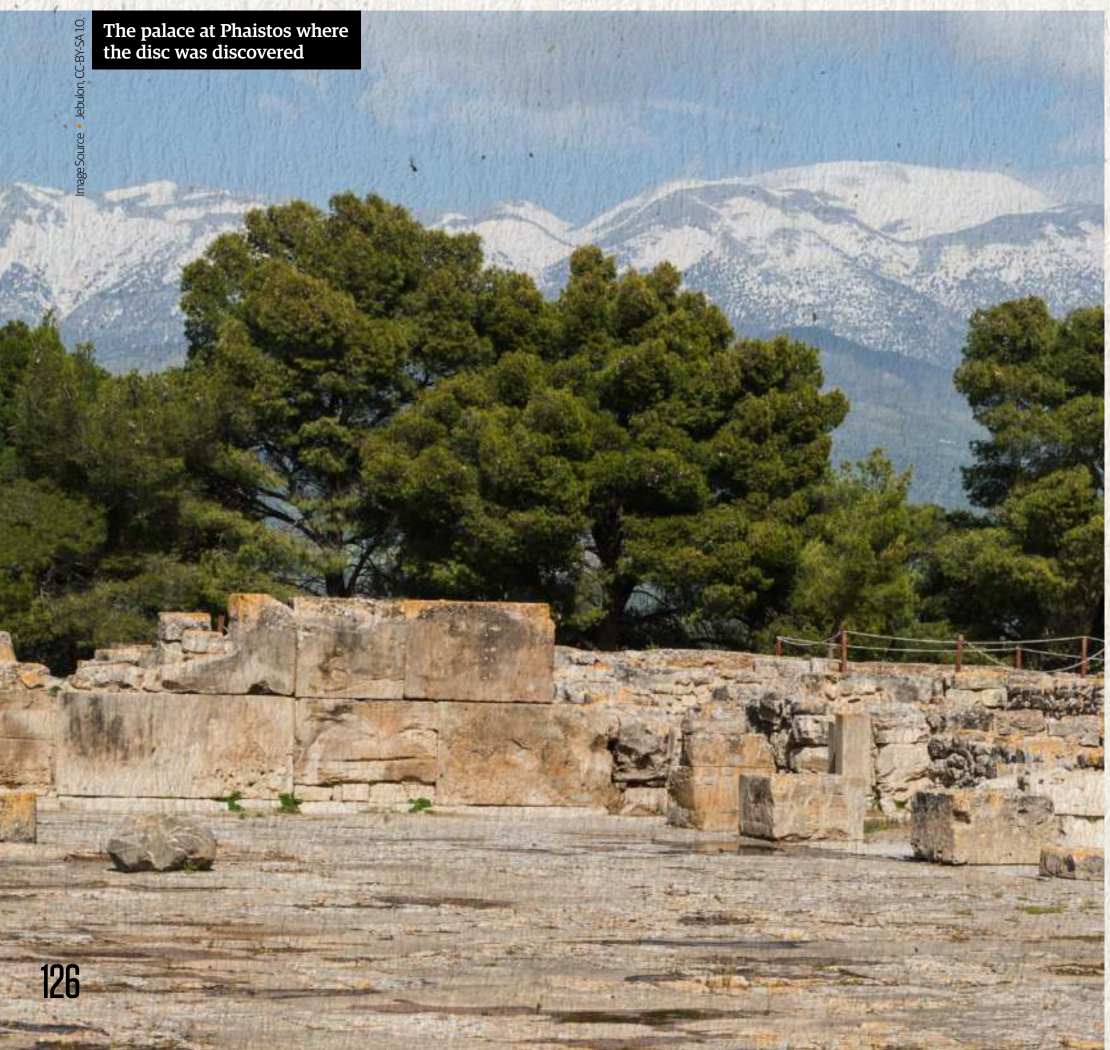


One side of the mysterious Phaistos Disc

Image Source • PRA CC-BY-SA 1.0.

In 1908, an intriguing discovery was made at the Minoan palace at Phaistos, in southern Crete. While excavating in one of the palace's underground annexes, Italian archaeologist Luigi Pernier unearthed a mysterious clay disc in a layer of black earth and ash, dating from some point in the second millennium BCE: the era of the Minoan Bronze Age. Guesses at the precise dating range from between 1850 and 1400 BCE. The disc, just shy of six inches in diameter, is inscribed on both sides with roughly 240 symbols that were impressed with individual metal stamps before firing. The disc immediately captures the imagination with this strange assemblage of symbols - arrows, tiaras, slings, ships, cats, rams, eagles, plants, people and more all feature. The symbols spiral from the edge to the centre within incised bands and, for decades, efforts have been made to decipher them. This is no easy task. The key to decoding ciphers is often to locate a comparable text as a point of reference but, while vaguely similar items to the Phaistos Disc exist, it seems to be unique.

While the majority of scholars agree that it is a genuine ancient artefact (the symbols tie in with motifs from the period - everything from dolphins to crocuses), the familiar argument of whether it is a code or simply a random object also looms large. It could be pure pictography, but the presence of dashes and lines suggest that some kind of punctuation and dividing of paragraphs is present. Theories have ranged widely. For some it is a depiction of an alphabet, for others a curse or a letter. Recent speculation, which has caused quite the scholarly kerfuffle, argues that it is a prayer to a Minoan goddess. A more mundane suggestion is that the disc has no meaningful linguistic content, but it's hard to believe that pure gibberish was being portrayed. Perhaps it is just an ancient board game. That some lost Minoan language is on display seems, however, to be the most likely answer. At any rate, the Phaistos Disc is one of archaeology's luckiest and most enigmatic finds: lost following an earthquake thousands of years ago, but now returned to us and causing no end of argument.



The palace at Phaistos where the disc was discovered

Image Source • Jebulon CC-BY-SA 1.0.

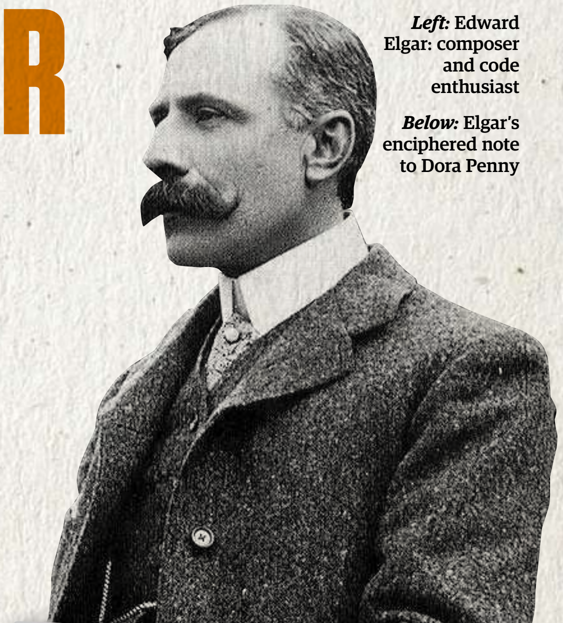
> “THE PRESENCE OF DASHES AND LINES ON THE DISC SUGGEST THAT SOME KIND OF PUNCTUATION AND DIVIDING OF PARAGRAPHS IS PRESENT”

Image Source • Zde CC-BY-SA 4.0.

A sample of Minoan Linear A text that some scholars believe will help disclose the disc's secrets

THE DORABELLA CIPHER

Edward Elgar was renowned for his melodies but had a side interest in literary mischief



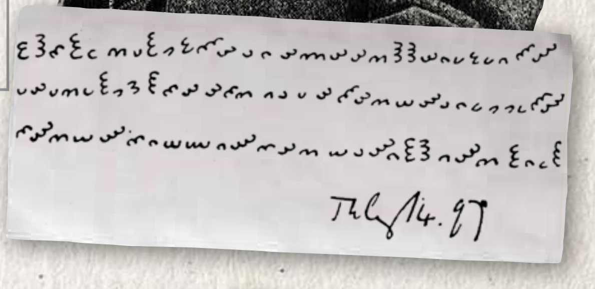
Left: **Edward Elgar: composer and code enthusiast**

Below: **Elgar's enciphered note to Dora Penny**

Image Source • Public Domain, The National Archives.

The English composer Edward Elgar was quite the fan of codes and ciphers. His famous Enigma Variations, an orchestral work consisting of 14 variations on a theme, composed in the last decade of the 19th century, pay rich testimony to the fact. Did he conceal a melody somewhere in the piece?

The Dorabella Variation links with another Elgar mystery that's excited much interest. At the age of 44, Elgar befriended Dora Penny, the stepdaughter of an acquaintance, and the pair remained close until Elgar's death at the age of 76. The issue of whether their relationship ever took a romantic turn is a matter of considerable speculation. In 1897, Elgar sent an odd, coded note, composed of 87 characters, to Dora, which remained a secret until three years after Elgar's death. Dora insisted that she had never been able to crack the cipher, so the notion of some shared secret language is unlikely. Countless decoding efforts have been made, and the Elgar Society have even launched competitions to this end. The trouble is that the translations edge towards the ludicrous: phrases such as "Larks! It's chaotic, but a cloak obscures my new letters" are proffered. That some coded musical notation is contained within the letter is also a common suggestion, but no one seems able to decide.



July 14. 97

> "THE ELGAR SOCIETY HAVE LAUNCHED COMPETITIONS FOR PEOPLE TO DECODE ELGAR'S NOTE TO PENNY"

THE TAMÁM SHUD PUZZLE

Who was the dead man on the beach with a piece of ancient poetry sewn into his trousers?

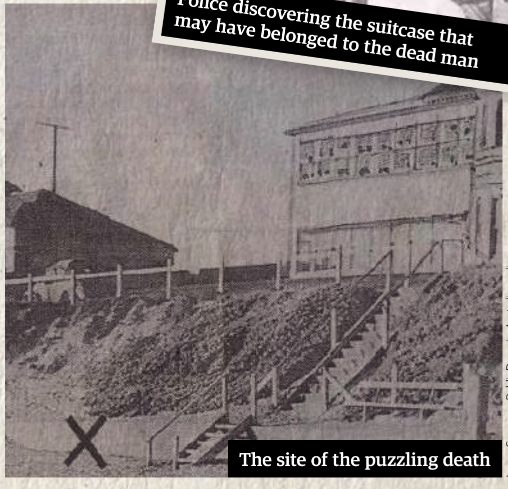
Police discovering the suitcase that may have belonged to the dead man

Image Source • Public Domain, Australian police.

In December 1948 the body of a man was found on Somerton Beach near Adelaide, Australia. There were no clues as to his identity - even the labels had been cut from his clothes - but a slip of paper was found secreted in his waistband. It was so well hidden, police didn't find it for four months. It bore the Persian phrase 'Tamám Shud', which pops up in a famous poetry book, *Rubaiyat of Omar Khayyam*. It translates to 'It is ended.' After a nationwide search, a copy of the book, with a page torn out, was found in the vicinity of where the man had died. Examined under ultraviolet light, the volume disclosed five lines of code written on the back page. So was the scrap of paper simply a stylish, if succinct, suicide note, or did it hold deeper meaning? Numerous theories abound, most frequently the notion that the man was a spy who had intercepted some crucial information, or that he was having a relationship with a Russian spy. Less glamorous suggested identities included a woodcutter and a steamship worker. The piles of evidence related to the case make the head spin: the witnesses who claim to have seen someone resembling the man on the day of his death; the suitcase found at a nearby railway station that could have belonged to the man. The experts believed the man had been poisoned, although by whose hand we may never know. And those five lines of code are absurdly enigmatic. The mystery lives on.

The grave of the Somerton Man

Image Source • Public Domain, Australian police.



The site of the puzzling death

Image Source • Public Domain, Australian police.

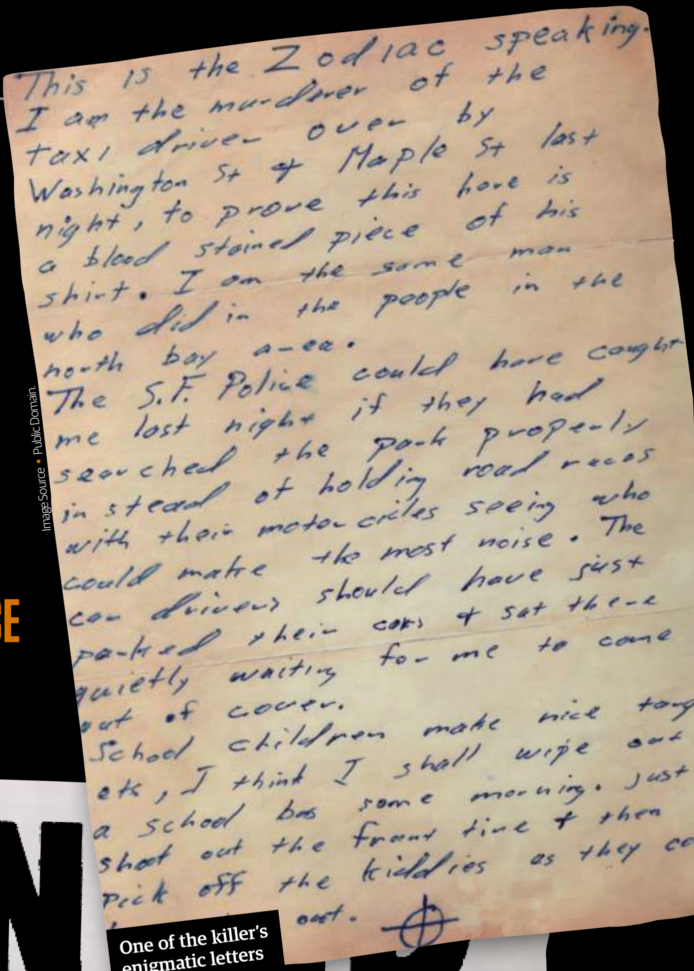
THE ZODIAC KILLER

Brutal killings in 1960s California produced the ultimate cold case, all thanks to mysteriously coded letters

The number of confirmed killings by the so-called Zodiac Killer pales in comparison to the roster of victims he claimed to have murdered - usually by shooting or stabbing. By his account, 37 people were slaughtered in locales ranging from parking lots to lakesides, and from beaches to colleges. In late 1960s California, the Zodiac Killer captured and terrified the popular imagination. He was also a rather efficient publicist. He taunted the police and the public with a series of letters and cards, some of which used a cypher and which promised to reveal his identity if they were cracked. They were sent to local newspapers, including the *San Francisco Chronicle* and *San Francisco Examiner*, and the killer threatened to embark on an even more frenzied murder spree if they were not published. As he put it, "I like killing people because it is so much fun." The *Chronicle* did publish, though on page four rather than the Zodiac's requested front cover. A fourth letter arrived in August 1969 and was published by the *Herald*. It contained specific information on the killings that had not been released by the police, making it likely that these missives were coming from the killer. This code was cracked but proved to be disappointing. No sign of the killer's identity was revealed: just odd talk of murdering people in order to acquire slaves for the afterlife.

Letters and cards continued to arrive at Bay Area newspapers, sometimes accompanied by artefacts that confirmed that the author was the killer - a scrap of a victim's shirt, for example. The most infuriating message turned up in 1970. It read: 'My name is' followed by a 13-character cipher. This took up endless hours of police time - from the cryptographers to the handwriting experts - but was never solved. Recently, efforts have been made to utilise new technologies and techniques to analyse traces of saliva on the stamps and envelopes sent by the killer in the hope of finding traces of DNA, but to date the case remains unsolved. Dozens of theories have emerged about the identity of the killer and some have claimed to have the cracked the code. Bizarrely, people have routinely come forward claiming to be the killer in a bid for notoriety and, just as oddly, visiting the sites of the murders has become a sinister tourist excursion. For the rest of us, the killings and codes have become the stuff of Hollywood movies.

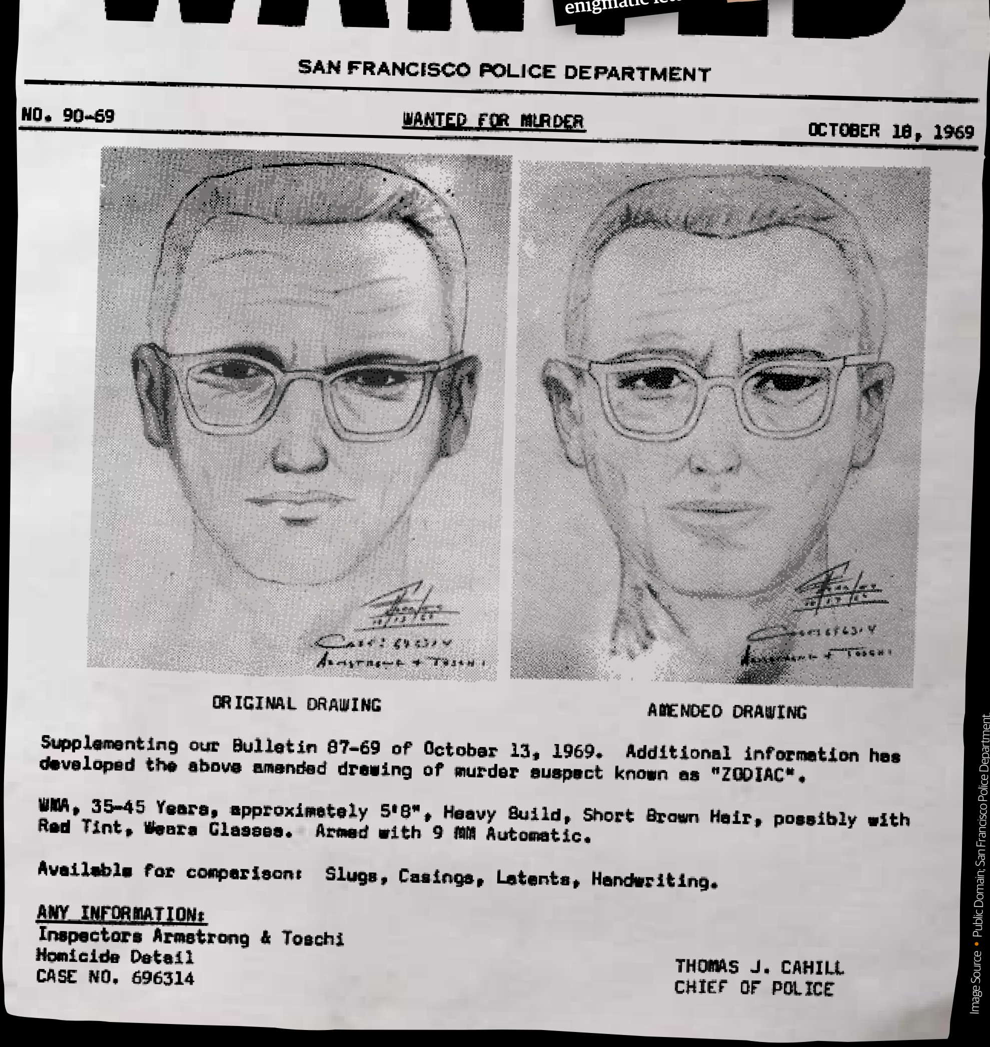
> "ZODIAC SAID: 'I LIKE KILLING PEOPLE BECAUSE IT IS SO MUCH FUN'"



This is the Zodiac speaking.
I am the murderer of the
taxi driver over by
Washington St & Maple St last
night, to prove this here is
a blood stained piece of his
shirt. I am the same man
who did in the people in the
north bay area.
The S.F. Police could have caught
me last night if they had
searched the park properly
instead of holding road races
with their motorcicles seeing who
could make the most noise. The
car drivers should have just
parked their cars & sat there
quietly waiting for me to come
out of cover.
School children make nice targ
ets, I think I shall wipe out
a school bus some morning. Just
shoot out the front tire & then
pick off the kiddies as they co
out.

One of the killer's enigmatic letters

Image Source • Public Domain.



WANTED

SAN FRANCISCO POLICE DEPARTMENT

NO. 90-69 WANTED FOR MURDER OCTOBER 18, 1969

ORIGINAL DRAWING

AMENDED DRAWING

Supplementing our Bulletin 87-69 of October 13, 1969. Additional information has developed the above amended drawing of murder suspect known as "ZODIAC".

WMA, 35-45 Years, approximately 5'8", Heavy Build, Short Brown Hair, possibly with Red Tint, Wears Glasses. Armed with 9 MM Automatic.

Available for comparison: Slugs, Casings, Latents, Handwriting.

ANY INFORMATION:
Inspectors Armstrong & Toschi
Homicide Detail
CASE NO. 696314

THOMAS J. CAHILL
CHIEF OF POLICE

A 1969 police sketch of the killer

Image Source • Public Domain, San Francisco Police Department.

THE BEALE CIPHERS

When codes might lead to riches they have a habit of garnering lots of attention

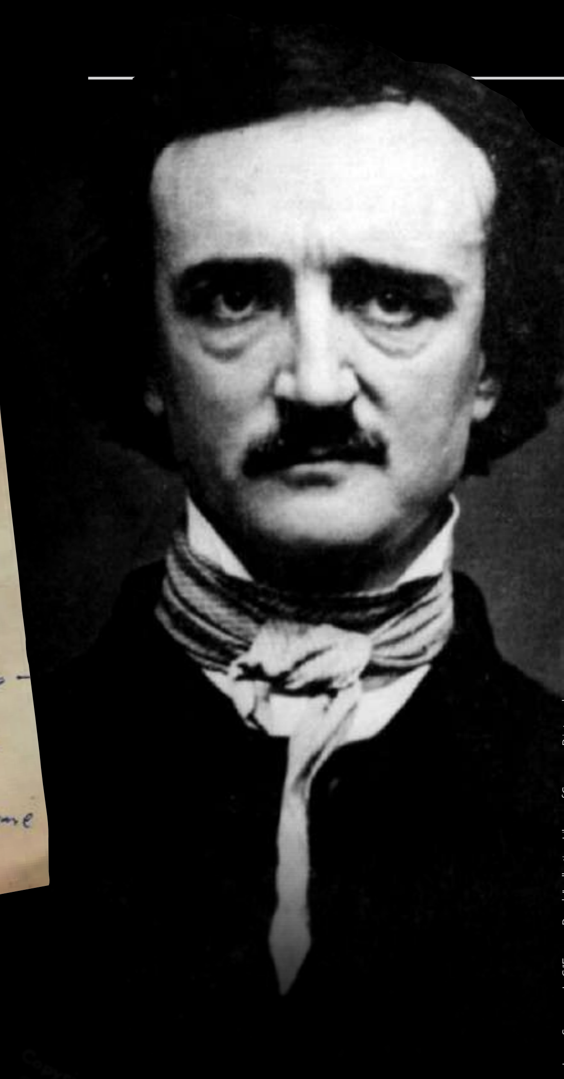


Image Source • LoC "Famous People" collection, Library of Congress, Prints and Photographs Division, Reproduction Number: LC-USZ62-10610.

Despite any evidence, Edgar Allan Poe is sometimes associated with the Beale Cipher

It is hardly surprising that three coded texts, purporting to reveal the location of gold, silver and jewels worth around $40 million, would pique interest. The story apparently dates back to the 1820s, when Thomas J Beale discovered a cache of loot in Spanish New Mexico. He's said to have composed three ciphers: the first pinpointing where he had hidden the treasure, the second itemising the contents, and the third explaining who'd helped him find it, ensuring that their descendants would receive a cut.

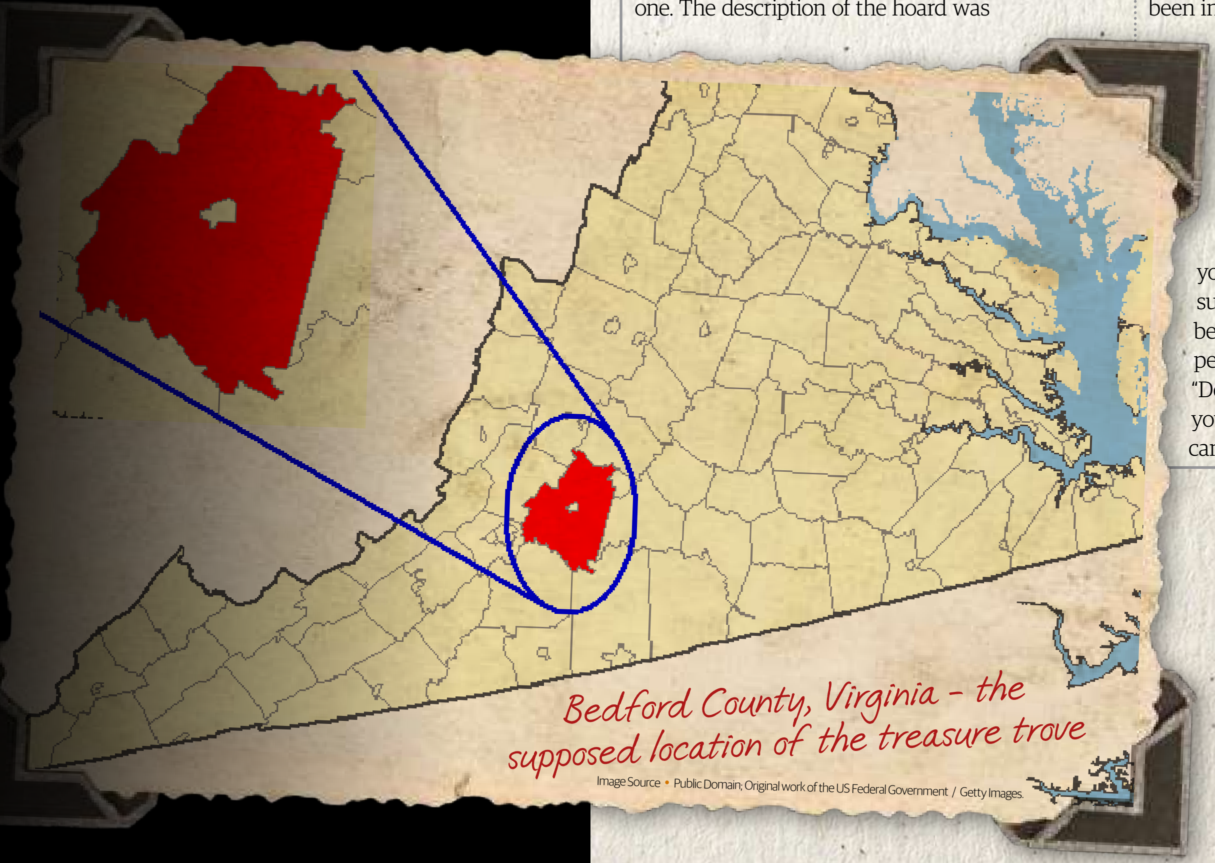
Beale entrusted a locked box containing the ciphers to a tavern owner, Robert Morriss, in Virginia, and instructed him to only open it after ten years if he didn't return. Morriss actually waited 23 years before opening it but had no luck deciphering the codes and eventually gave the papers to a friend in the 1860s. The friend, whose name has never been revealed, spent years trying to decipher Beale's numerical codes, and actually succeeded in decoding the second one. The description of the hoard was solved with a straightforward substitution cypher. If you take any number in the paper and pick up a copy of the Declaration of Independence, you're in business. Select number 73 in the text, for example, then look at the 73rd word in the Declaration and see what letter it begins with - in this case 'h' - and you've cracked the code.

"BEALE ENTRUSTED A LOCKED BOX CONTAINING THE CIPHERS TO A TAVERN OWNER"

Unfortunately, he had no such luck deciphering the other two codes, and in 1885 he made the letters and ciphers public in a pamphlet entitled The Beale Papers, which was published by another friend, James B. Ward.

Curiosity has run riot ever since. Opinion is divided. Some historians see it as a hoax; perhaps the pamphlet containing the papers was just a scam, designed to make money from the sale of the ciphers. Disappointingly, some of the phrases do not quite fit with the language used when Beale allegedly wrote the papers, which adds to doubts about their authenticity, though it is possible that some of the seemingly unusual phrases may have been in verbal usage if not yet recorded in print.

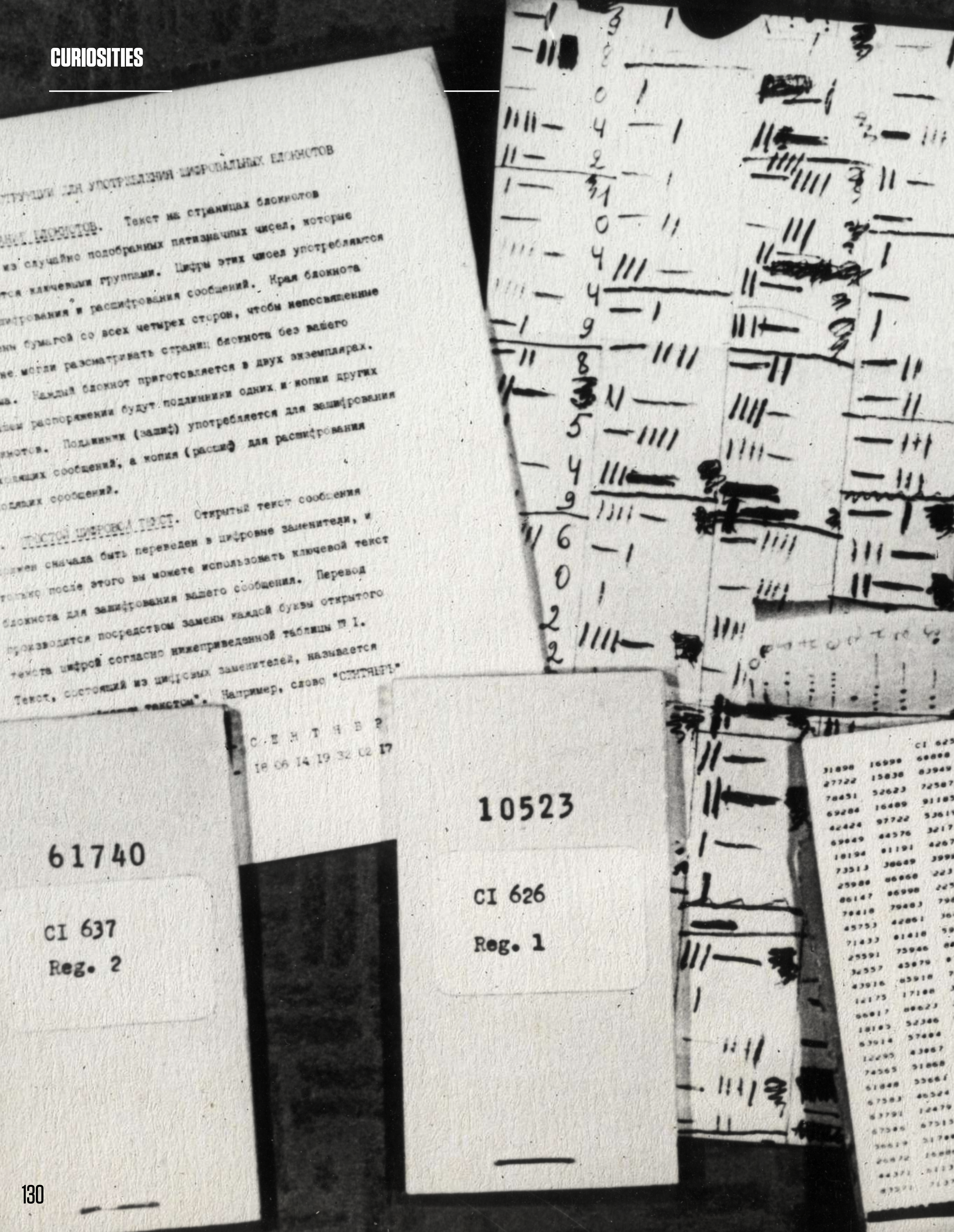
Was it all a concoction of the man who published the papers? Did Beale really exist? If the stash is out there, it'd be quite the find: 2,921 pounds of gold and 5,100 pounds of silver, plus jewels. Wild theories have suggested that Edgar Allan Poe may have been behind the whole affair, but the timelines don't match up. Still, if you're ever in Bedford County, Virginia (the supposed location of the treasure), it might be worth buying a shovel. Then again, better perhaps to follow the advice of the pamphlet: "Devote only such time as can be spared from your legitimate business to the task, and if you can spare no time, let the matter alone."



Bedford County, Virginia - the supposed location of the treasure trove

Image Source • Public Domain; Original work of the US Federal Government / Getty Images

"THE SECOND PAPER WAS SOLVED WITH A STRAIGHTFORWARD SUBSTITUTION CIPHER"



ТРУКЦИИ ДЛЯ УПОТРЕБЛЕНИЯ ШИФРОВАЛЬНЫХ БЛОКНОТОВ

НИЕ БЛОКНОТОВ. Текст на страницах блокнотов
из случайно подобранных пятизначных чисел, которые
тся ключевыми группами. Цифры этих чисел употребляются
ифрования и расшифрования сообщений. Края блокнота
ны бумагой со всех четырех сторон, чтобы непосвященные
не могли рассматривать страниц блокнота без вашего
а. Каждый блокнот приготовляется в двух экземплярах.
шем распоряжении будут подлинники одних и копии других
нотов. Подлинник (зашиф) употребляется для зашифрования
ящих сообщений, а копия (расшиф) для расшифрования
одящих сообщений.

ПРОСТОЙ ШИФРОВКИ ТЕКСТ. Открытый текст сообщения
жен сначала быть переведен в цифровые заменители, и
только после этого вы можете использовать ключевой текст
блокнота для зашифрования вашего сообщения. Перевод
производится посредством замены каждой буквы открытого
текста цифрой согласно нижеприведенной таблицы № 1.
Текст, состоящий из цифровых заменителей, называется
текстом". Например, слово "СЕНТЯБРЬ"

С Е Н Т Я Б Р
18 06 14 19 32 02 17

61740

CI 637
Reg. 2

10523

CI 626
Reg. 1

SECRET SIGNALS

Hidden inconspicuously amid the static are some mysterious transmissions – but what are they for? And who is behind them?

WRITTEN BY **JACQUELINE SNOWDEN**

Tune a shortwave radio just right and you may be able to pick up some bizarre broadcasts. Strings of Morse code, sporadic snippets of music, a lone voice reading a series of random numbers… these curious communications may not make any sense to the casual listener, but they are quite possibly delivering important information to someone.

Many of these mysterious frequencies are known as numbers stations. While they never announce themselves, and no governments or intelligence agencies claim to run them, it is widely accepted that these stations are sending coded messages to spies.

This is not as outlandish an explanation as it may seem. Shortwave radio may be comparatively low-tech in the internet age, but it's a reliable method of one-way communication over long distances. Digital activity can be monitored or traced relatively easily, but with numbers stations the intended recipient of a transmission is anonymous.

Operatives receiving these messages would likely decode them using one-time pads, code sheets that only the sender and receiver have. These lists of random digits work with a specific key to translate the number sequence into the intended message (for example, at a very basic level the key could be 1=A). Once that message was transmitted or deciphered, both the sender and receiver would destroy their key, leaving no trace of the means to decode the message. Every single message uses a new, randomly generated key – for all intents and purposes, the system is uncrackable.

> "SOME BELIEVE THAT ORGANISED CRIME GANGS MAY USE THE SAME TECH"

It's possible that these secret radio signals aren't exclusively used by intelligence agencies. Some believe that organised crime gangs may use the same technology to coordinate smuggling operations and other illegal activities.

It makes for uneasy eavesdropping to know that you won't be the only person listening in on a numbers station. Here are just some of the spooky spy signals that have infiltrated the airwaves.

Image Source • Getty Images

THE BUZZER

Are the broadcasts of this secretive Russian station just a defunct Cold War relic? Or something more sinister?

Years active: 1970s/80s – present

Somewhere in north-western Russia, transmitters have been broadcasting a series of repetitive beeps and buzzes almost continuously since at least the early 1980s. The regularity and reliability of the unexplained signal fascinated the small community of shortwave radio enthusiasts who stumbled across it. With the rise of the internet, access to the signal via online sources gained the transmission thousands more captivated fans. Despite growing interest in the signals, their origin and true purpose are still a mystery.

The station initially transmitted intermittent beeps and went by the call sign UVB-76. In 1992, the beeps inexplicably changed to buzzes, firing once every two to three seconds, all day and all night. Through the crackling airwaves, the buzzes sound almost like a ghostly foghorn.

Occasionally, the buzzing would be interrupted by a male voice reading out a random series of numbers, words spelled in the phonetic alphabet, and sometimes names as well. The Buzzer – as it unofficially became known – would sometimes change pitch and frequency, but was seemingly unaffected by whatever upheavals engulfed Russia. Through the end of the Cold War, the fall of the Soviet Union, the Chechen wars and all the political manoeuvring within the Russian Federation, UVB-76 kept buzzing along.

Then on 5 June 2010, without warning or explanation, The Buzzer stopped buzzing. For the first time in decades, the station fell silent for approximately 24 hours, but went back to buzzing business as usual the next day. For the next few months the otherwise monotonous, metronome-like transmissions were occasionally interrupted by Morse code, distorted voice recordings and two more brief signal blackouts.

On 23 August 2010, UVB-76 managed to get even stranger. The buzzing stopped and a clear voice announced: "UVB-76, UVB-76 – 93 882 NAIMINA 74 14 35 74 – 9, 3, 8, 8, 2, Nikolai, Anna, Ivan, Michail, Ivan, Nikolai, Anna, 7, 4, 1, 4, 3, 5, 7, 4." Enthusiasts assumed these were coordinates, which translate to the middle of the Barents Sea (between Scandinavia, Svalbard and north-western Russia). And perhaps their decryptions were right – the Russian military perform missile tests in those remote waters.

The Buzzer resumed, but for the next couple of days those tuning in overheard what sounded like someone shuffling around or knocking things. There was an open microphone in whatever room the signal was being broadcast from, and

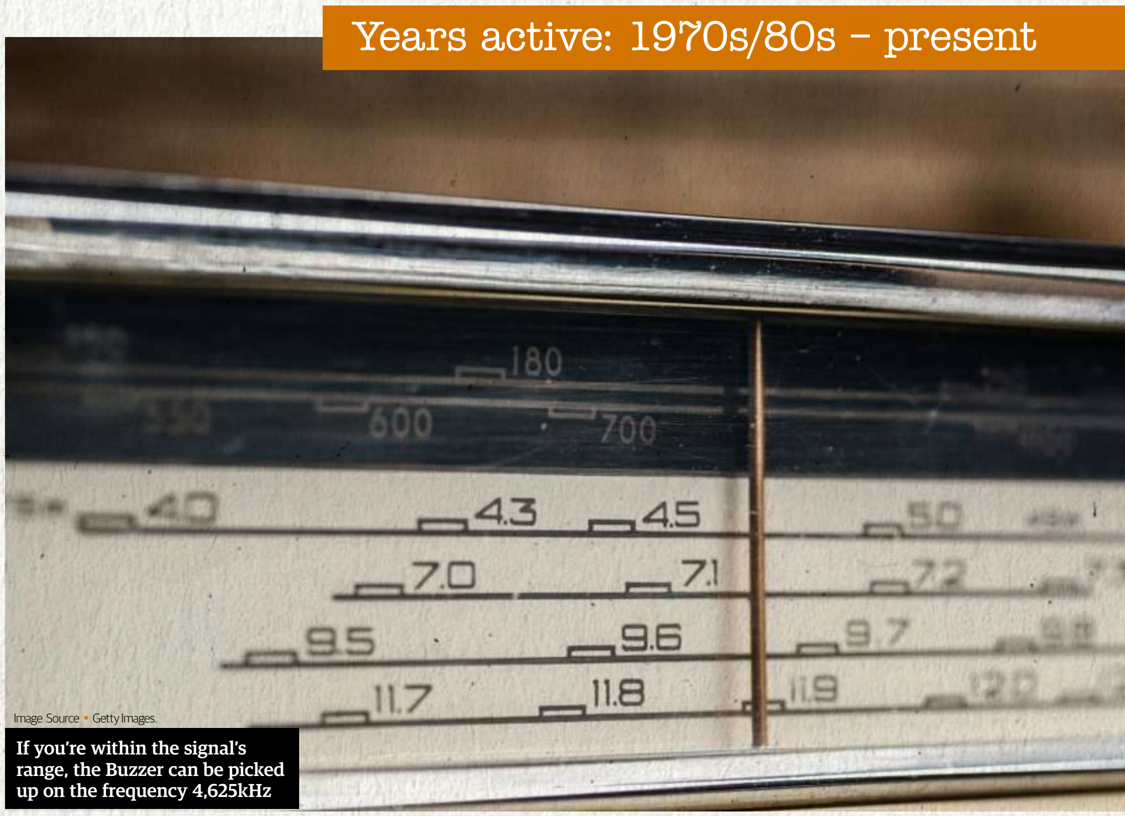


Image Source • Getty Images.

If you're within the signal's range, the Buzzer can be picked up on the frequency 4,625kHz

The Cuban Five

The not-so-secret station that supplied Communist spies with orders, and gave the FBI the means to catch them

In September 1998, five members of Cuba's La Red Avispa (The Wasp Network) were arrested in Miami for conspiracy to commit espionage. During their time in the US, Ramón Labañino, Antonio Guerrero, Gerardo Hernández, Fernando González and René González, AKA the 'Cuban Five', had been receiving orders from Cuba on a numbers station known as Atención or The Spanish Lady.

The Cuban spy station would broadcast messages in Spanish, starting with a female voice announcing "¡Atención!" before reeling off number sets. The execution of its broadcasts gained a reputation among curious listeners for often being laughably bad: Atención's signal would wander; sometimes it would broadcast the audio of the station Radio Havana Cuba by mistake; at least one message opened to the sound of a rooster crowing. For covert Cuban field agents trying to listen intently to the all-important announcements, understanding the messages was a challenge.

One thing that did make the job easier was technology. The spies entered the codes into a bespoke computer program that automatically decoded the messages for them. It was more convenient than manually deciphering the messages with a one-time pad, but it became a key factor in the Five's downfall.

Unbeknownst to the Cuban spies, in 1995 FBI agents had managed to secretly gain access to one of their computers and make a copy of the decoding program. Armed with this, the Americans had easy access to every message intended for the Wasp Network, including orders to befriend US soldiers at the nearby military base and to infiltrate certain groups of influential anti-communist and anti-Castro Cuban exiles living in Florida. The FBI's numbers station recordings were used as evidence during the trial of the Cuban Five, who were convicted in 2001. Atención continued to broadcast their signal even after the spies were arrested. Perhaps the Cuban Five had already been replaced by other operatives, or maybe it was another case of the station's poor production.

Right: All members of the Cuban Five have since been released. In Cuba they're revered as heroes

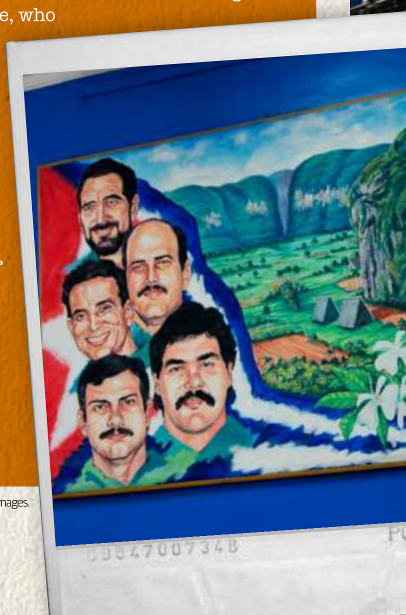
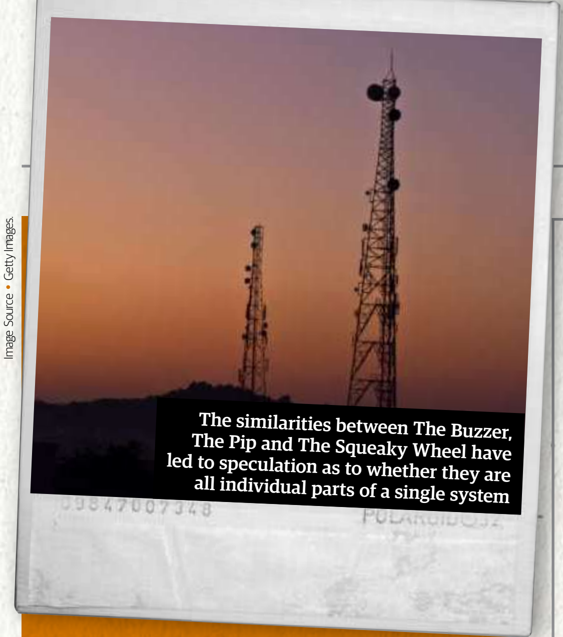


Image Source • Getty Images.



The similarities between The Buzzer, The Pip and The Squeaky Wheel have led to speculation as to whether they are all individual parts of a single system

Image Source • Getty Images.

The Buzzer's sister stations

MDZhB isn't the only unsettling signal being broadcast from Russia

Two other shortwave broadcasts have some striking similarities to the infamous Buzzer, known as The Pip and The Squeaky Wheel.

The Pip has been active since at least 1986 and broadcasts regular monotonous, electronic beeps all day, every day. It is occasionally interrupted by coded voice messages before the pips resume.

The Squeaky Wheel has been broadcasting since at least 2000 and its original interval sign was repeated 'squeaks' of two different tones. However, in 2008 it changed to two tones of electronic beeps, no longer sounding particularly like its namesake.

Both stations differ from The Buzzer in that they switch between two frequencies, one for daytime broadcasts and another for nighttime. Some avid listeners suggest that the three stations are linked somehow; perhaps part of the same system for domestic military communications. But only its operators and the signals' intended recipients know for sure.

someone or something was definitely there. But, despite much anticipation among eavesdroppers, there was no 'man behind the curtain' reveal.

Over the following few weeks there were several more interruptions - this time, they were musical interludes. Listeners overheard short extracts of Tchaikovsky's 'Danse des Petits Cygnes' ('Dance of the Little Swans') from *Swan Lake* between the drones. Then, on 7 September 2010, a male voice broke The Buzzer's vocal silence once again. The mysterious announcer declared the signal's new call sign: "Mikhail Dmitri Zhenya Boris" or MDZhB. One of the most famous transmissions among Buzzer enthusiasts occurred several years later in 2013, when a male voice ominously stated "Ob'yavila komanda 135" ('Command 135 announced/initiated'). Rare interruptions such as these have raised more questions than answers, adding to the intrigue surrounding the station's raison d'être.

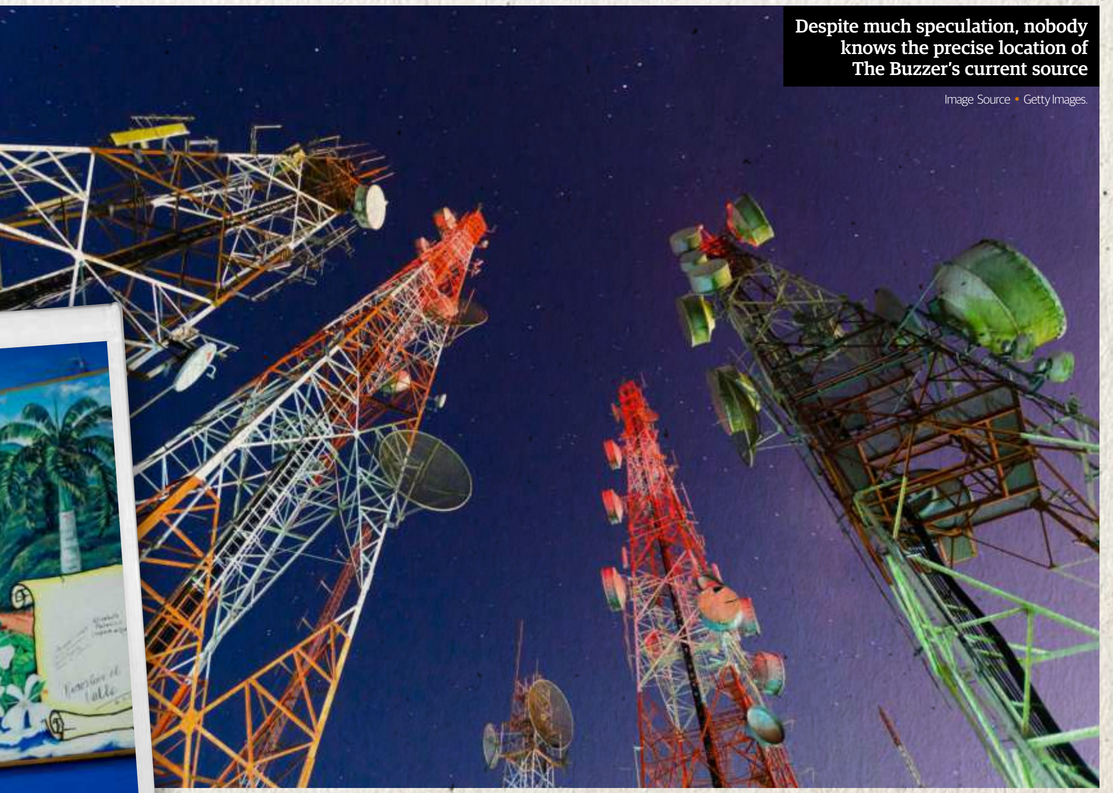
Radio enthusiasts and conspiracy theorists alike have spent many years pondering the purpose of these transmissions. Some think it's a long-forgotten Soviet-era military communication facility, still functioning but no longer in use. Others wonder if it could be part of an ominous 'dead hand' system - a relic of the Cold War designed to launch an automatic counter-attack should the US annihilate the Russian capital with a nuclear bomb.

A less dramatic hypothesis is that MDZhB is simply part of a scientific experiment to study parts of the Earth's atmosphere. A paper published in 2008 in the *Russian Journal of Earth Sciences* (entitled 'Information-measuring complex and database of mid-latitude Borok Geophysical Observatory') describes the use of 4,625kHz - the same frequency as The Buzzer - as a carrier wave frequency to investigate the ionosphere with Doppler radio sounding. This requires a constant signal to be broadcast into the atmosphere at a specific known frequency. Perhaps this is all an elaborate cover story to conceal The Buzzer's true purpose, or perhaps those running the station are killing two birds with one stone; a scientific application is not necessarily mutually exclusive from another, more clandestine one.

The leading theory, however, is that The Buzzer is a numbers station that is only occasionally activated to transmit secure messages to the Russian military. In which case, the persistent buzzing between the mysterious coded messages is likely to be a way of keeping the frequency occupied so that it can't be used by used by other parties for different purposes. But this remains purely speculation - the Russian government have never admitted to owning or running the station.

Besides the enigma of the signal's perpetual buzz and intermittent codes, the whereabouts of its transmitter has also sparked interest. Numbers station enthusiasts have tried to triangulate its exact position without success, but attempts to trace the signal's source have yielded estimates. Initially, The Buzzer seemed to be coming from a now-abandoned military base in Povarovo, north-west of Moscow. However, after the strange messages in August 2010, the transmitter's apparent location changed, moving away from Moscow and north-west towards St Petersburg. It migrated to the city of Pskov near the Estonian border, suggesting that the strange broadcasts that summer may have been part of the source switchover. The Russian military underwent a structural reorganisation around the same time, with a new command centre being established at St Petersburg. This provided more evidence - if only circumstantial - for MDZhB having some form of military link.

> "INITIALLY, THE BUZZER SEEMED TO BE COMING FROM A NOW-ABANDONED MILITARY BASE NORTH-WEST OF MOSCOW"



Despite much speculation, nobody knows the precise location of The Buzzer's current source

Image Source • Getty Images.

In January 2016, the callsign changed to ZhUOZ, and in January 2019 it changed yet again. Now, various ones are used. The most commonly used sign is ANVF, although 2170, VZhCh, A1JZH and LNR4 have also been used, amongst others. ZhUOZ has not been abandoned, though.

The Buzzer has accumulated a cult-like following, with dedicated listeners tuning in to its almost hypnotic drones, recording its every announcement and debating what it could possibly mean. But each coded transmission or random interruption just raises more questions; the case of The Buzzer only gets curiouser and curiouser.

THE LINCOLNSHIRE POACHER

How a jaunty English folk song became synonymous with British espionage

Years active: 1970s – 2008

Royal Air Force
AKROTIRI
NON-PASS HOLDER
PASS HOLDERS
CARS
HEAVY VEHICLES

Image Source • Getty Images

Radio direction detecting equipment suggested that the RAF Akrotiri base was the source of the infamous Lincolnshire Poacher broadcasts

One of the most famous numbers stations was the Lincolnshire Poacher. This strange station got its name from a traditional English folk song, the first few bars of which were used to bookend each broadcast. The melody was eerily played out several times as the signal's interval sign, produced by what sounds like a synthesised calliope instrument.

In every communication, once the tune ended, a recording of a woman with an upper-class British accent repeated a five-number sequence. It's thought that this code was to identify the intended recipient of the subsequent message, which would follow after three chimes. The main messages consisted of a long series of numbers (always 200 groups of five-digit figures), which took around 45 minutes to deliver in full.

These communications would take place every day between noon and 10pm (UTC). It's thought that the regularity of the broadcasts added an extra layer of secrecy. Transmitting on a regular schedule and sending messages of the same length each time meant that nothing was given away. If messages were typically five minutes long, but out of the blue an hour-long broadcast was made, it would indicate to anyone listening in that something was afoot. Consistency gave the impression that nothing was out of the ordinary, regardless of whether the coded content was telling operatives there was nothing to report, or perhaps to prepare for a vital mission.

With specialised radio direction finding equipment, avid Lincolnshire Poacher eavesdroppers hoping to find its transmission source claimed to have tracked it to the RAF Akrotiri base in Cyprus. It's believed to have been used by British Secret Intelligence Service (MI6) to broadcast messages to agents based across the Middle East, but this theory has never been confirmed (nor denied) by the intelligence agency.

A very similar station known as Cherry Ripe was thought to have been broadcast from Guam, before being moved to Australia's Northern Territory. The only major difference was Cherry Ripe's interval sign – a synthesised version of the English folk song of the same name. Apart from that, its transmissions followed the same format, with announcements made by the same voice, so presumably it too was run by MI6.

The Lincolnshire Poacher stopped broadcasting in June 2008 and Cherry Ripe ceased transmissions about 18 months later. Amateur radio sleuths who had followed their broadcasts for decades were left none the wiser as to the exact purpose of these secret stations.

The Conet Project

Discover the greatest hits collection of spy radio in an extensive archive of cloak-and-dagger broadcasts

In 1997, a four-CD compilation of the obscure recordings from numbers stations was released by the record label Irdial Discs. The 150 different station samples were put together by numbers station aficionado Akin Fernandez, who'd been captivated by the bizarre broadcasts since he discovered them while browsing the airwaves in 1992. The name, 'The Conet Project', came from the frequent use of the word 'conet' (Czech for 'end') in many of the broadcasts. It was rereleased as a five-disc edition in 2013 with one-time pad samples.

At the time, the CDs – and the accompanying booklet that speculated about each transmission's purpose – were a niche product among shortwave radio enthusiasts. With the internet age, however, it became easier for information about these broadcasts to be shared and their popularity grew to cult status. The increased interest in these mystery transmissions led to a UK Government spokesperson addressing the issue: "People shouldn't be mystified by them," she told the *Daily Telegraph* in 2008. "They're not, shall we say, for public consumption." It's the closest thing to an admission from an official source regarding a numbers station that there has ever been.

Audio extracts from The Conet Project have been used in popular culture, including the 2001 psychological thriller *Vanilla Sky*

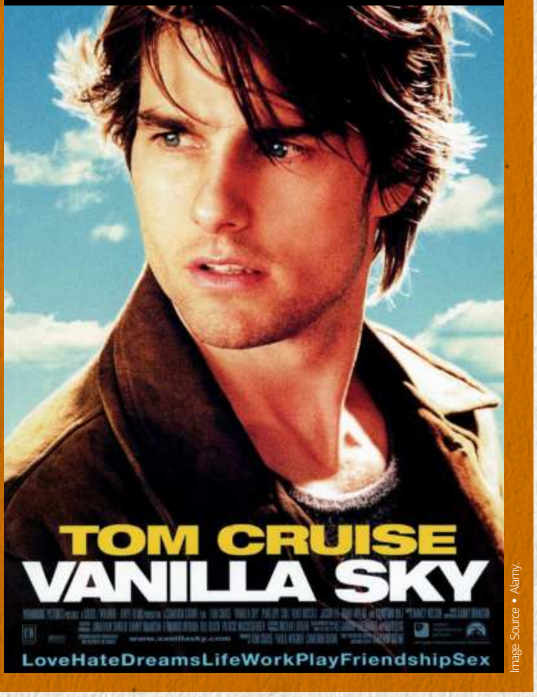


Image Source • Alamy

OTHER RADIO STATIONS

SWEDISH RHAPSODY

Years active: 1950s - 1998
Suspected source/origin: Poland

An ice cream truck melody and the disembodied voice of a little girl reciting coded messages in German made for one of the creepiest numbers stations on the airwaves. It used a tune from *Swedish Rhapsody No. 1* by Swedish composer Hugo Alfvén as an interval sign.

Image Source • Getty Images.

YOSEMITE SAM

Years active: 2004 - present
Suspected source/origin: New Mexico, US

This baffling signal consists of a short 'buzz' of a compressed data burst lasting 0.8 seconds, followed by a clip of the cartoon character Yosemite Sam shouting "Varmint, I'mma gonna blow you to smithereens!" - a quote from an episode of *Bugs Bunny, Bunker Hill Bunny*, that was first broadcast in 1949.

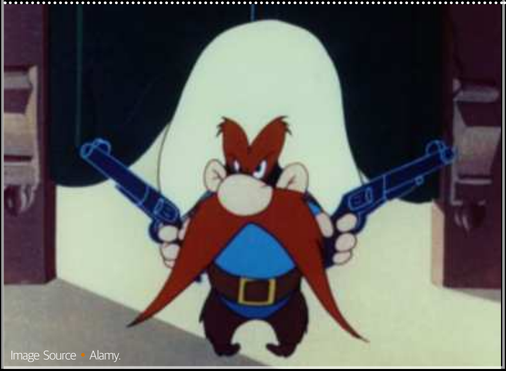


Image Source • Alamy.

THE CUBAN BABBLER

Years active: Unknown - 2016
Suspected source/origin: Cuba

This station earned its nickname from its bizarre delivery style. The announcers on The Cuban Babbler didn't read strings of code, they sang them - fast - to what seemed to be improvised melodies. Have pity on the intended recipient trying to copy the message down!

Image Source • Getty Images.

THE BORED MAN

Years active: Unknown - 1998
Suspected source/origin: Cuba

The Bored Man sounded as disinterested in his role as announcer as his nickname suggests. He would often get things wrong and have to backtrack or restart transmissions to correct himself. Sometimes listeners overheard laughter in the background during his broadcasts.

Image Source • Getty Images.

MOSSAD

Years active: 1960s/70s - 2011
Suspected source/origin: Israel

Unlike most other numbers stations, the signal nicknamed Mossad mostly used NATO phonetic letters rather than numbers. Samples from this station's messages were used by the American band Wilco on their record Yankee Hotel Foxtrot, and also inspired the album title.

H
HOTEL

F
FOXTROT

Y
YANKEE

LOST TREASURE

Join the treasure hunters scouring the world for its legendary lost riches **WRITTEN BY SCOTT REEVES**

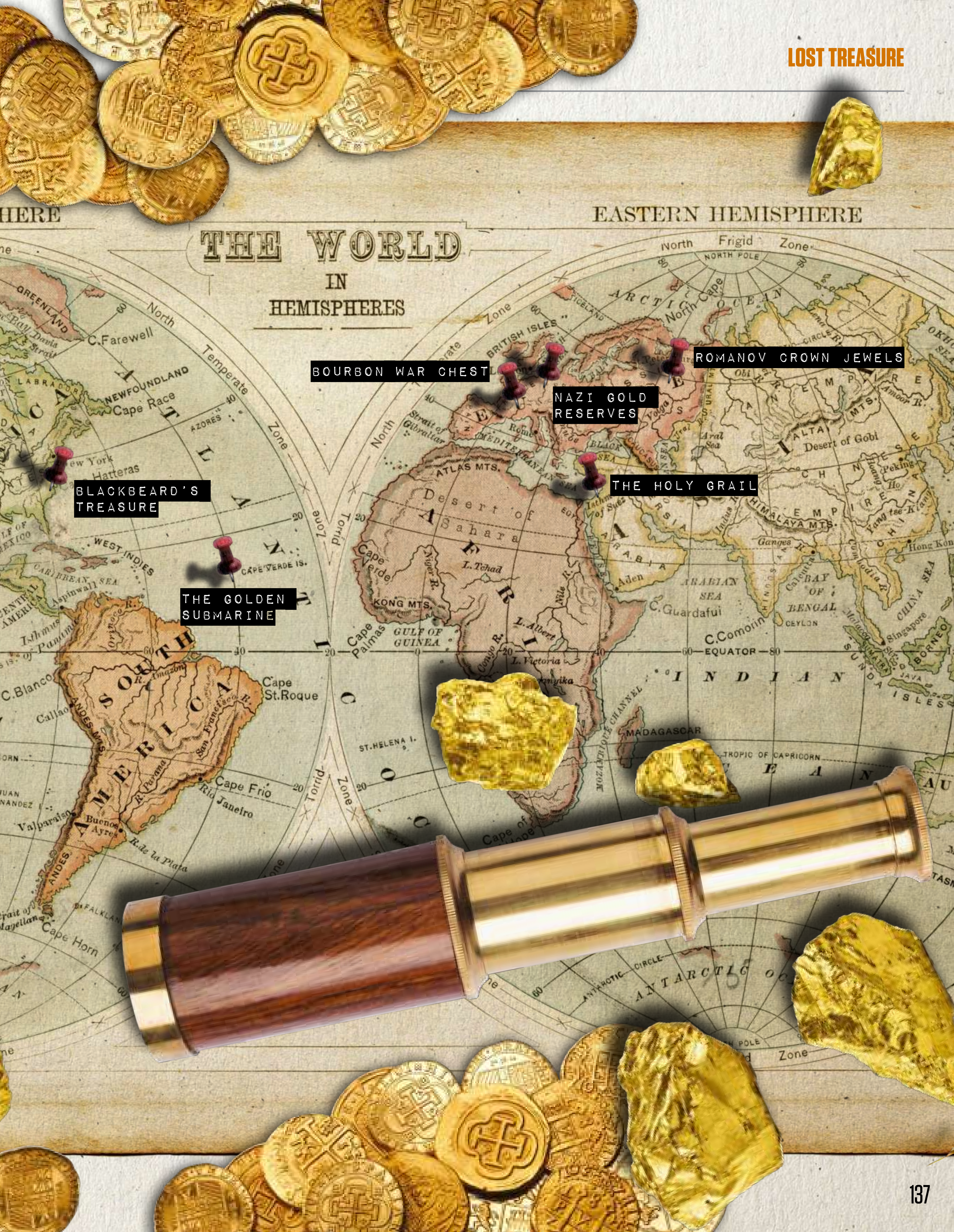
In July 1985, a maritime explorer located the wreck of Spanish galleon Nuestra Señora de Atocha off the Florida Keys, 363 years after it sank. Not only was a historical mystery finally solved, but with roughly 40,000 kilograms of gold and silver, and 32 kilograms of emeralds on board, its finder was suddenly rich beyond his wildest dreams.

The lucky diver who discovered the world's most valuable shipwreck was just one of a long line of treasure hunters who have scoured the globe in search of the valuable caches lost to the foggy passage of time. Professional salvagers and amateur enthusiasts are always on the lookout for clues to history's famed missing riches.

From secret hoards of Nazi gold to one of a sacred artefact of Biblical legend, join our quest for the historical treasures that continue to elude sleuths around the world.

WESTERN HEMISPHERE
NORTH POLE
BEHRING SEA
ALEUTIAN ISLES
ALASKA
Cape Mendocino
San Francisco
NORTH AMERICA
UNITED STATES
MEXICO
TROPIC OF CANCER
SANDWICH IS.
Cape San Lucas
Acapulco
GILBERT IS.
EQUATOR
GALAPAGOS
PACIFIC OCEAN
OCEANICA
SOCIETY IS.
FEEJEE IS.
FRIENDLY IS.
CORAL SEA
TROPIC OF CAPRICORN
EASTER I.
NEW CALEDONIA
Auckland
NEW ZEALAND IS.
Torrid Zone
South Temperate Zone
ANTARCTIC OCEAN

All images • Getty Images


THE WORLD
IN
HEMISPHERES
EASTERN HEMISPHERE
BOURBON WAR CHEST
NAZI GOLD RESERVES
ROMANOV CROWN JEWELS
BLACKBEARD'S TREASURE
THE HOLY GRAIL
THE GOLDEN SUBMARINE

NAZI GOLD RESERVES

Where did Hitler hide the fatherland's mother lode?

Date lost: 1945

Rumoured location: Germany/Austria/Poland

Image Source • Chmee2 CC-BY-SA 3.0

The labyrinth of tunnels under the Owl Mountains are rumoured to hide a Nazi gold train

The Wehrmacht soldiers who loaded boxes onto a train at Breslau in early 1945 may not have known that the crates contained items of phenomenal value. Once the carriages were full, the train steamed 80 kilometres south-west to the Owl Mountains, where it disappeared into a rabbit warren of tunnels and bunkers that the Nazis had hacked into the rock. The Nazi gold train – the most famous of all Hitler's lost treasures – was never seen again.

When the German army moved across Europe at a rapid rate in the early years of World War II, they plundered the countries that came under Nazi control. As the tide turned and the Allies began to push the Wehrmacht towards Berlin, the captured treasures were smuggled back to areas of safety. In the final days of the Third Reich, a rump of loyal Nazis did their best to hide their loot to prevent it falling into enemy hands.

Among the supposedly secret stashes was a train – or possibly three trains – that disappeared into the tunnels of Project Riese in January 1945. The seven underground complexes in the Owl Mountains, all unfinished at the war's end, were probably intended to house a secure headquarters and secret armament factories. However, as the Allies closed in, the tunnels were allegedly commandeered to hide loot from across Europe. Among the cargo rumoured to have been loaded from Breslau station were approximately 300,000 kilograms of gold, secret weaponry and masterpieces of art. Perhaps the prize specimens were the gold leaf and mirrored panels, which were ripped from the Amber Room in Catherine Palace near Petrograd, and briefly displayed by the Nazis in Königsberg.

There is no concrete evidence proving the existence of the Nazi gold train, but if it did exist, it would not be without precedent. In May 1945, French and American soldiers seized a train near Werfen in Austria, which was returning to Germany loaded with plunder from occupied Hungary. The Wehrmacht had hoped to slip away from the liberating Allies with their looted treasure intact but, in time, the majority of the train's cargo – estimated to be worth $350 million by the Hungarian government – was returned to its original owners.

With rumours of a similar fantastic treasure hidden in the tunnels of Project Riese, it is hardly surprising that the Polish army scoured the mountains in the post-war years. They drew a blank, but hopes were raised in 2015 when underground explorers produced a ground-penetrating radar signal that seemed to show a 100-metre train in a shaft 50 metres underground. However, subsequent investigations suggested that the radar images were the result of natural ice formations. The search goes on in the Owl Mountains.

> "A NUMBER OF THEORIES SUGGEST THAT THE NAZIS DUMPED THEIR GOLD UNDERWATER, NOT UNDERGROUND"

Some have suggested that treasure hunters are searching in the wrong place. A number of theories suggest that the Nazis dumped their gold underwater, not underground. Possible candidates include Lake Walchen near Munich, where local residents spotted Wehrmacht soldiers working near the shore in April 1945. Nazi archives reveal that Himmler ordered a convoy of three trucks with an unknown cargo to drive overnight from Berlin to Bavaria around the same time. Did it carry Nazi gold reserves? Lake Lüner, close to Dachau concentration camp, may be the hiding place of gold and jewels taken from the victims of the Holocaust, while Lake Stolpsee near Berlin is rumoured to hold 18 crates of gold, together with the bodies of the Polish slave labourers who dumped them.

Most underwater searches, however, have focused on Lake Toplitz in the Austrian Alps. Used as a Kriegsmarine testing station during the war, it may also have been used as a hiding place for Nazi valuables in the final days of the Third Reich. Soldiers were spotted driving to the shore of the lake in May 1945 in armoured vehicles, then struggling with horse-drawn carts when the

Divers in Lake Toplitz have failed to find Nazi gold, but they have discovered fake British currency

Image Source • Bundesarchiv, Bild 183-H27992 / Sonnke, Hans / CC-BY-SA 3.0

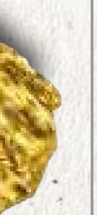
situation became so dire that all vehicles were needed at the front. Could this be the location of the lost Nazi gold?

Divers searching for the treasure have so far drawn a blank, but have uncovered the remains of a crashed plane and several test-fired rockets and missiles. With no oxygen in the water below a depth of 20 metres, the preservation of anything dropped in the water is excellent, meaning divers found more than £100 million in fake British banknotes, originally part of a plan to flood the British economy with counterfeit currency. The gold, however, has evaded them.

One last possible location for the Nazi gold is not in the Third Reich at all, but at the bottom of the Baltic Sea. According to Rudi Lange, the radio operator on board MV Wilhelm Gustloff, crates of valuable cargo were loaded into the ship's hold under the watchful eyes of an armed guard in January 1945. The former cruise ship, which was converted into a floating hospital during the war, departed the port of Danzig in occupied Poland with thousands of refugees crammed aboard, all of whom were fleeing the advance of the Red Army. However, Wilhelm Gustloff did not get very far. Struck by three torpedoes launched from a Soviet submarine, the ship swiftly sank with the loss of more than 9,000 lives - the deadliest shipwreck in history.

If the shipwreck does contain the Nazi's gold reserves, finding it will be difficult. The ship disintegrated after the Soviets dropped depth charges on the wreck to clear the shipping channel, leaving a tangle of crumpled metal on the sea bed. In addition, its status as a war grave means that diving within 500 metres is now no longer permitted. Wilhelm Gustloff will hold on to its secrets for a long time.

Whether the reserves of the Reichsbank are lost in a train tunnel, at the bottom of a lake or on a sea bed remains unknown, but the enduring mystery surrounding Hitler's hidden riches means that treasure hunters will continue to scour the former Third Reich in the hope of uncovering the missing wealth of history's most notorious regime.



FBI's top unsolved art crimes

The FBI announced the creation of a Top Art Crimes list in November 2005; these are the unsolved cases currently on the Bureau's radar

IRAQI LOOTED AND STOLEN ARTEFACTS

DATE LOST: 10-12 APRIL 2003

When the National Museum of Iraq was left unattended during the 2003 war, Iraqi forces used it as a compound to launch attacks from, and at least three separate thefts occurred, resulting in the loss of 15,000 items. Around half are still missing.

THEFT OF CARAVAGGIO'S NATIVITY

DATE LOST: 18 OCTOBER 1969

Two thieves entered the Oratory of San Lorenzo in Palermo and removed the nearly-three-metre-tall *Nativity* from its frame above the altar. The Mafia are usually considered to be prime suspects, although the trail has long gone cold.

THEFT OF THE DAVIDOFF-MORINI STRADIVARIUS

DATE LOST: OCTOBER 1995

While 91-year-old concert violinist Erica Morini was ailing in hospital, thieves entered her New York apartment and took a 1727 Stradivarius violin valued at $3 million from a display cabinet. Morini died before anyone told her of the theft.

THEFT OF CÉZANNE'S VIEW OF AUVERS-SUR-OISE

DATE LOST: 31 DECEMBER 1999

One enterprising thief ignored the festivities marking the new millennium and used the opportunity to sneak into Oxford's Ashmolean Museum to steal a $3 million Cézanne painting. Since other works were ignored, it was probably stolen to order.

THEFT OF GERTRUDE VANDERBILT WHITNEY MURALS

DATE LOST: 27-28 JULY 2002

Maxfield Parrish's series of seven murals for Gertrude Vanderbilt Whitney's New York mansion was split up when two were stolen from Edenhurst Fine Art Gallery in West Hollywood, California. Robbers knocked a hole in the ceiling and cut the paintings from their frames.

THEFT FROM THE MUSEU CHÁCARA DO CÉU

DATE LOST: 24 FEBRUARY 2006

Four armed robbers burst into a Rio de Janeiro museum and kept staff and visitors hostage for 30 minutes while they stole four paintings by Picasso, Monet, Matisse and Dali, before melting into the city's vast Carnival crowds.

THEFT FROM ART GALLERY OF NEW SOUTH WALES

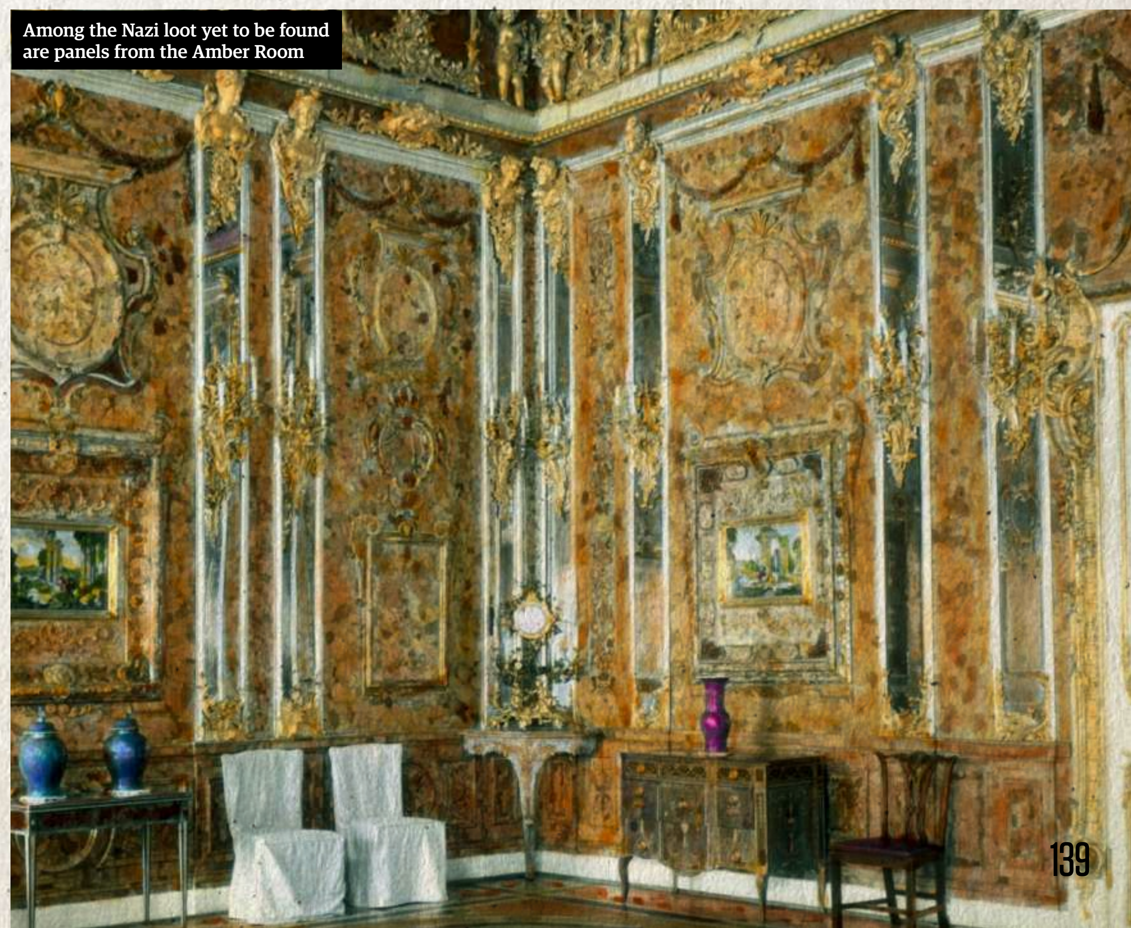
DATE LOST: 10 JUNE 2007

Van Mieris's *A Cavalier* may only measure 20 by 16 centimetres, but it carries a hefty value of over $1 million. It was pilfered while the gallery was open, but the thief aroused no suspicion and made a clean getaway.

THEFT OF RENOIR OIL PAINTING

DATE LOST: 8 SEPTEMBER 2011

Madeleine Leaning On Her Elbow With Flowers In Her Hair by Renoir was in the possession of a private owner when an armed gunman stormed into his Houston home. Since the robber also demanded money and jewellery, he may not have realised exactly what he was stealing.



Among the Nazi loot yet to be found are panels from the Amber Room

Image Source • Public Domain; Courtesy Special Collections / UC Santa Cruz / Branson DeCou

ROMANOV CROWN JEWELS

How did the vast fortune of the tsar melt into the snowy wastes of Siberia?

The execution of the Russian royal family led to more than a century of Romanov treasure hunting

Image Source • Public Domain; Boasson and Eggler St. Petersburg Nevsky 24.

Date lost: July 1918
Rumoured location: Siberia

> “DIAMONDS SEWN INTO THEIR CLOTHING HAD GRANTED SOME FORM OF PROTECTION FROM THE ONSLAUGHT”

The civil war that raged in Siberia enabled Romanov loot to go missing without trace

Image Source • Public Domain; Lt. William C Jones of the Russian Railway Service Corps

On the night of 16 to 17 July 1918, the former tsar of Russia was led into a basement with his wife, five children and four loyal servants. All were executed over the course of 20 bloody minutes, with 70 bullets fired in the carnage. The last three to die were grand duchesses Tatiana, Anastasia and Maria, who seemed to defy the bullets and crouched against the back wall in terror. One even survived a bayonet to the chest after the sharp blade failed to penetrate her. When the Bolsheviks came to examine their bodies afterwards, they discovered that 1.3 kilograms of diamonds sewn into their clothing had granted some form of protection from the deadly onslaught.

Yet the precious jewels that the Romanovs died with made up only a tiny proportion of their total wealth. As the autocrat of the biggest nation in the world, Nicholas II had an estimated wealth running into billions of pounds. Although most assets were seized by the Bolsheviks in 1917, enough remained in the former tsar's hands to enable him to live in luxury, if he could escape his kingdom with his life.

When the 1917 Revolution began, the royal family escaped St Petersburg for Siberia, initially to Tobolsk in the Urals, then to their final and fatal destination in Yekaterinburg. Once the troublesome figureheads were disposed of, the Bolsheviks turned their attention to finding their riches. But with the Romanovs all dead, nobody could tell them where it was. It emerged that the Romanovs left stockpiles of treasure with trusted locals during their exile. One was handed to the nuns of Tobolsk, who had provided the royal family with milk and eggs during their brief stay. The nunnery was closed in 1923, and the abbess hid the loot, but it was uncovered by the Soviet NKVD in 1933. The Soviet appraiser valued the haul of over 150 items to be worth more than three million roubles.

However, two more hoards still remain unaccounted for more than a century later. According to a royal servant, a Tobolsk priest named Alexey Vasilyev was entrusted with a leather suitcase containing the crowns of the tsarina and her daughters. It has not been seen since. Remarkably, the tsar even gave treasure worth one million roubles to Eugene Kobylinsky, the officer in charge of the royal family during their imprisonment, who in turn handed it to another associate. Kobylinsky died before the communist authorities got onto his trail, and the next holder, Konstantin Pechekos, refused to divulge its location to Soviet interrogators.

Aside from what Nicholas and his family carried with them, loyalists attempted to smuggle as much gold as possible away from St Petersburg upon the outbreak of the Russian Revolution. Some 500,000 kilograms of gold was shifted eastward to Alexander Kolchak's counter-revolutionary White forces in Siberia. When Kolchak was captured by Czech mercenaries, who had been hired to fight for Russia during World War I but were stranded by the Bolshevik Revolution, they used their prisoner and his gold as a bargaining chip in exchange for safe passage home. However, rumours quickly spread that the Bolsheviks were not given Kolchak's gold in its entirety. So what happened to the rest?

Documents in the KGB archive relate a story from Carl Purrock, a former White soldier. He said he was the only surviving member of a three-man crew who hurried to hide gold at Taiga railway station, more than 2,000 miles east of Moscow, when his force came under attack from Bolsheviks. Purrock returned to the area to rediscover it in 1931 and 1935, but could not find it, nor did the KGB have any success when they threw ample resources at it in 1941. Other hoards of gold have been rumoured to lay at the bottom of Lake Baikal, lost there when a train carrying it derailed on a bridge, or close to the disused Ob-Yenisei Canal in Krasnoyarsk. None have been found.

Bolshevik forces did manage to lay their hands on a collection of royal jewels, including diamond-encrusted blades, church relics and the precious Abalak icon - but only temporarily. The Bolsheviks kept their new-found treasure in boxes at Maka Yugan, but it was found and taken back by White soldiers Vladimir Smirnov and Captain Kiselyov. After Kiselyov was killed in battle, Smirnov hid the boxes somewhere in the Ural Mountains and fled to Finland with a map of the location. He returned in June 1942 as part of a Nazi-sponsored, anti-communist scheme that aimed to free prisoners from the Gulags and rise up against Stalin. Smirnov may have intended to revisit his burial site to dig up the treasure, but he was shot dead by his own comrades after being accused of treason. The map never resurfaced. Not for the first time, a portion of the Romanov crown jewels were missing without trace.

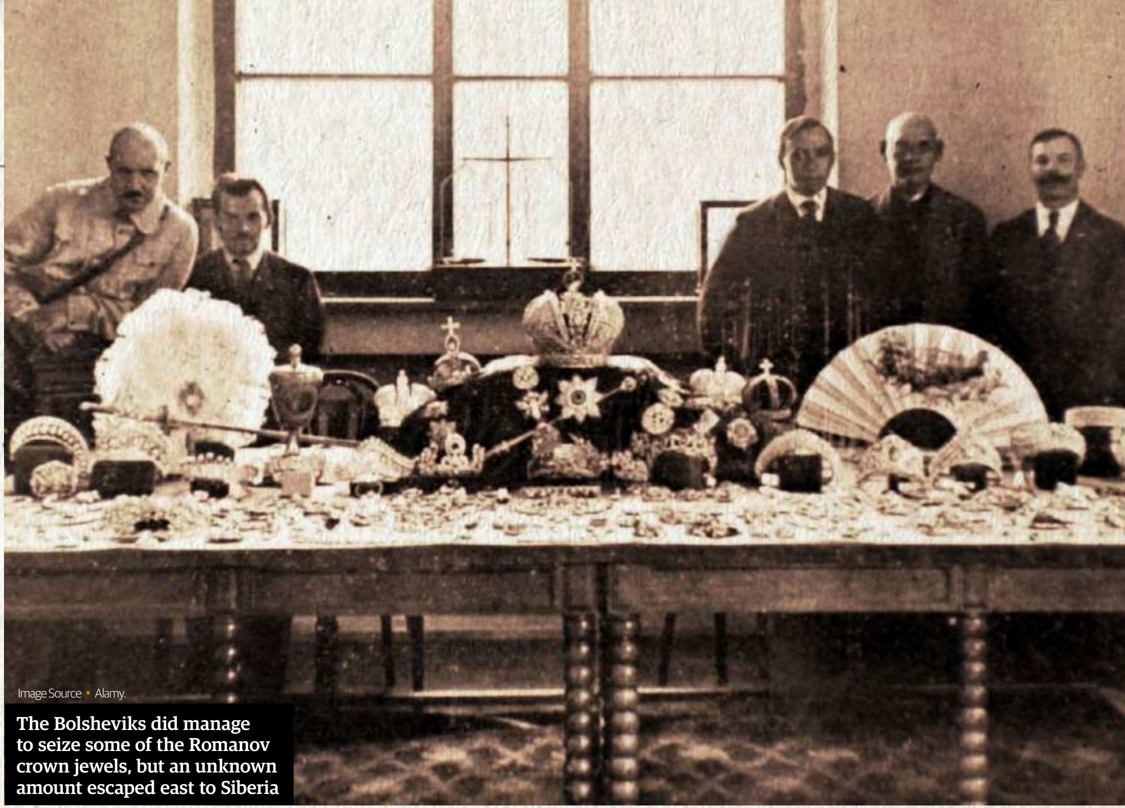
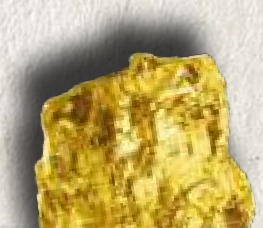


Image Source • Alamy.

The Bolsheviks did manage to seize some of the Romanov crown jewels, but an unknown amount escaped east to Siberia

BOURBON WAR CHEST

Did a hairdresser slip away with the French royal purse?



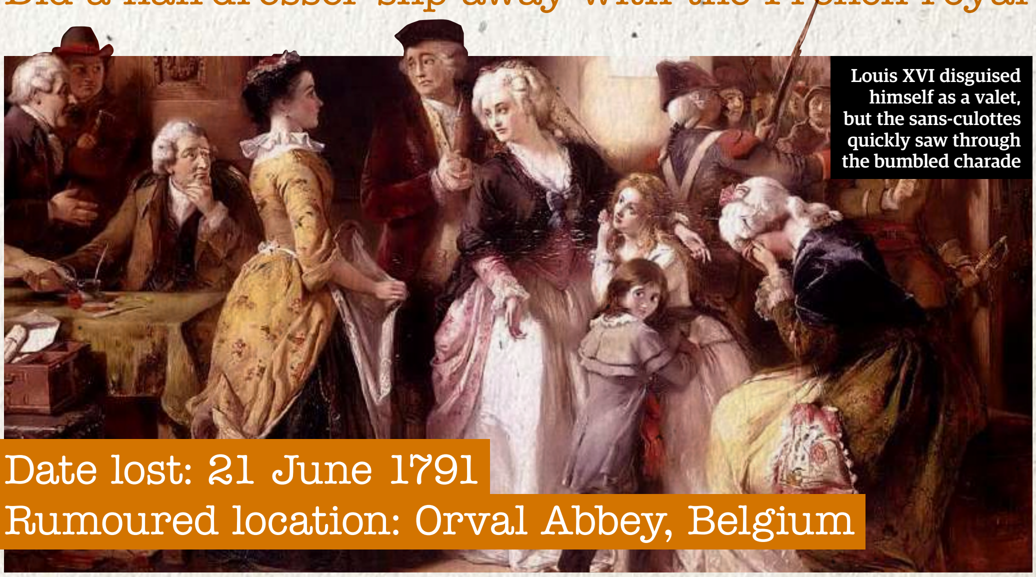


Image Source • Public Domain, Boisson and Eggler St. Petersburg Nevsky 24.

Louis XVI disguised himself as a valet, but the sans-culottes quickly saw through the bumbled charade

Date lost: 21 June 1791
Rumoured location: Orval Abbey, Belgium

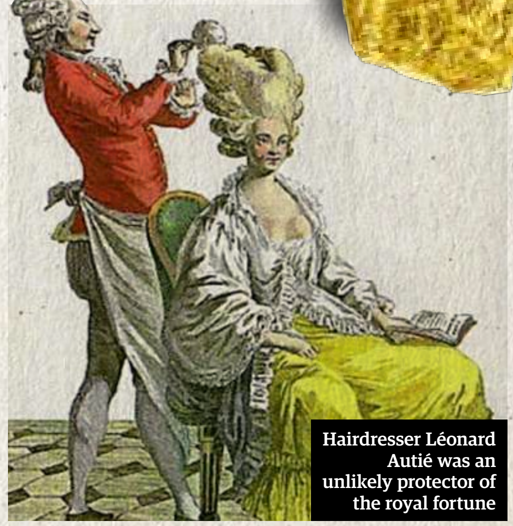


Image Source • Public Domain, Bibliothèque Nationale de France.

Hairdresser Léonard Autié was an unlikely protector of the royal fortune

When King Louis XVI finally admitted that he had lost control of the French capital in the summer of 1791, he and his queen, Marie Antoinette, chose to flee east to loyal General Francois Claude de Bouille and his royalist army at Montmédy. To avoid arousing the suspicions of revolutionaries en route, they travelled in disguise. The dauphin's governess was to play the part of a Russian baroness, with Louis as her valet, Marie as her governess, and the royal princes and princesses as her brood of children.

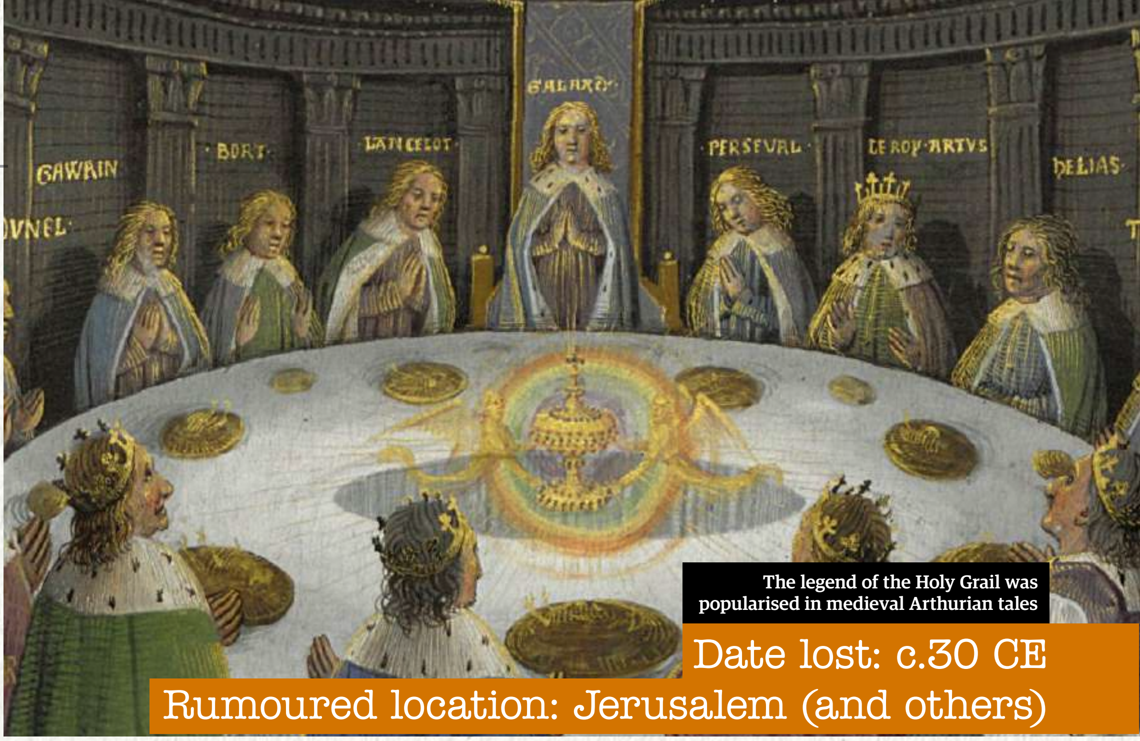
They made it three quarters of the way, a remarkable achievement considering the bungled nature of the escape: Louis kept being recognised, no doubt because he engaged locals in conversation whenever they stopped, while pretend-governess Marie gave away silver dishes to a helpful local official. Soon the slow-moving carriage was surrounded by cheering crowds. Unsurprisingly, the escape attempt was stopped by revolutionary soldiers at Varennes, and the royal family was escorted back to Paris.

However, the king might have been accompanied by more than just his family and a few trusted confidantes on his journey. According to rumour, he also sent ahead a war chest full of cash and jewels. The chosen protector of their fortune was the unlikely figure of Léonard Autié, the royal hairdresser who was used to looking after the queen's pouf rather than her purse. While the king was captured, Léonard Autié supposedly made it across the border into the Austrian Netherlands, and stashed the treasure at Orval Abbey, in present-day Belgium.

Why has this fantastic tale survived? Perhaps because the flight of the French king was supposedly predicted by none other than Nostradamus, who more than 250 years before had composed a series of prophesies, some of which were written at Orval Abbey. The name 'Orval' itself means 'valley of gold', and the abbey is also reputed to be the hiding place of treasure belonging to the Knights Templar. Those looking to strike it rich could do worse than search this valley of gold.

THE HOLY GRAIL

From the Old World to the New World, where is the most famous Christian treasure?



The legend of the Holy Grail was popularised in medieval Arthurian tales

Date lost: c.30 CE

Rumoured location: Jerusalem (and others)

Image Source • Public Domain; Evrard d'Espinques / Bibliothèque nationale de France.

Best known as the treasure searched for by King Arthur and his Knights of the Round Table, the Holy Grail was first recorded in medieval literature as a golden but distinctly un-holy dish. Later tales twisted the source material until it became a sacred object, mixing the legend of the Holy Chalice used to serve wine at the Last Supper with the dish that caught the blood of Jesus at his crucifixion.

By the late medieval period, the legend of the Holy Grail had become so well known that different places were falling over themselves to claim it as their own. Two are still on display today: the Holy Chalice of Valencia in the city's cathedral, and the Sacro Catino - a green, glass bowl in Genoa Cathedral.

Britain plays a large role in the Holy Grail legend. Some think that the Holy Grail is hidden somewhere in Rosslyn Chapel, a theory popularised in Dan Brown's *The Da Vinci Code*. Or maybe it is on Glastonbury Tor, where the abbey there was supposedly founded by Joseph of Arimathea, the disciple who captured the blood of Jesus in the Holy Grail and took charge of his burial. Or perhaps it is the Nanteos Cup, a wooden bowl excavated at Aberystwyth in 1878.

Less likely theories include the suggestion that the US government has a secret chamber in Fort Knox that holds the Holy Grail, or a nameless Jesuit priest fled to the New World aboard John Smith's ship but lost it somewhere around Accokeek in Maryland.

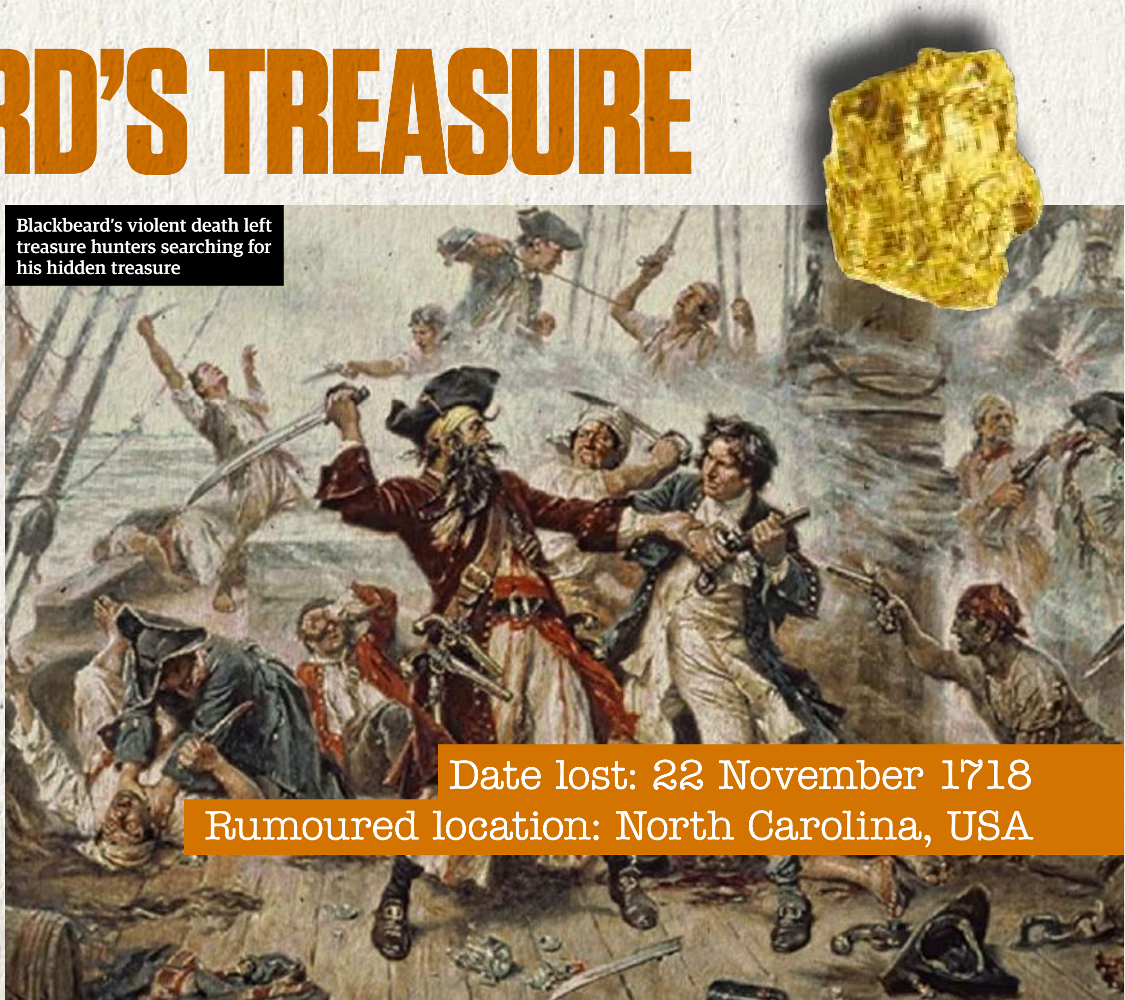
What about back where it all began, in Jerusalem? Some think that the Holy Grail never left the city at all, but was buried with Jesus in his tomb. The location of that is not known for certain, but it is described in the Bible as close to the site of the crucifixion, which is believed to have been a fissure between two rocks at the top of a hill on which the Dome of the Rock now sits. Perhaps those in search of the grail have mounted a needless worldwide quest, since it barely moved from Temple Mount.

BLACKBEARD'S TREASURE

Is Blackbeard's fortune hidden where X marks the spot?

Despite what we read in popular stories, pirates did not in fact bury their treasure in chests and draw a convenient map of its location. Nevertheless, the most famous pirate of them all - Edward Teach, popularly known as Blackbeard - was rumoured to have a hidden hoard of treasure. According to believers, he would not divulge where it lay the night before his last, fatal encounter, declaring "that no-body but himself and the Devil, knew where it was, and the longest liver should take all."

That has not stopped treasure hunters trying to track it down. Was it at Plum Point, Blackbeard's home of two months during his brief period as a law-abiding citizen of North Carolina? Or was it at Archbell Point, home of Governor Eden



Blackbeard's violent death left treasure hunters searching for his hidden treasure

Date lost: 22 November 1718

Rumoured location: North Carolina, USA

Image Source • Public Domain; Jean Leon Gerome Ferris

The artefacts pulled from the wreck of Queen Anne's Revenge provide a wealth of historical information

Image Source • Alamy

who granted his short-lived pardon and has been fingered as a possible accomplice who readily accepted Blackbeard's bribes?

It seems a shame to spoil the story, but most likely there is no secret stash of treasure. Pirates tended to steal goods and cargo, not gold, and their wealth was usually spent as quickly as they plundered it. However, treasure of a different sort was discovered in 1996, when maritime archaeologists uncovered the wreck of Queen Anne's Revenge at Beaufort Inlet in North Carolina. Blackbeard captured his famous ship - then a French slaver known as Concorde - on 28 November 1717, commandeering the vessel and allowing Concorde's crew to sail away in his old sloop. He sailed the renamed Queen Anne's Revenge for the next six months, ransacking a number of merchant vessels and blockading the port of Charleston, until his ship ran aground on a sandbar at Beaufort Inlet.

The archaeologists who were excavating the wreck pulled hundreds of objects from the sediment. Although gold and precious gems were not part of the assemblage, they did find the decorated stem of a wine glass, the remains of a French hunting sword and, less salubriously, a urethral syringe for treating venereal disease. 31 cannons have been uncovered, inside one of which were fragments of paper. Amazingly, experts even identified the book they came from - Captain Edward Cooke's *A Voyage to the South Sea*, and *Round the World*. This treasury of information can be used by historians to find out more about the golden age of piracy.

THE GOLDEN SUBMARINE

Did the US navy unwittingly send $25 million to the bottom of the Atlantic?

Date lost: 24 June 1944

Rumoured location: Atlantic Ocean

USS Bogue was the most successful anti-submarine carrier in the war, sinking nine German and two Japanese subs

Image Source • The National Archives UK @ Flickr Commons.

On D-Day, 6 June 1944, the Japanese naval attaché in Berlin, Rear Admiral Kojima Hideo, sent an urgent message to Commander Uno Kameo: the Allies had invaded Normandy, and Kameo should disregard his previous orders to sail submarine I-52 to Lorient in occupied France. Instead, Kameo should rendezvous with a German U-boat in the mid-Atlantic in order to be guided to a safe haven in Norway.

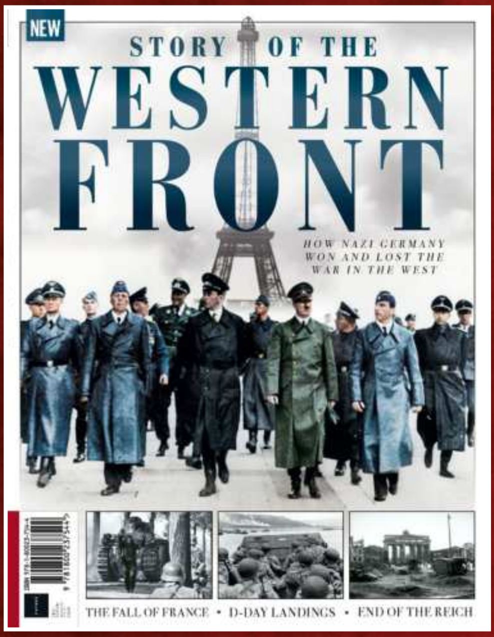
What neither Hideo nor Kameo knew was that US intelligence was listening to every word that they said. Armed with the coordinates of the rendezvous location, a submarine hunter group set sail from Casablanca. Although they arrived a day late, and German submarine U-530 slipped away undetected, it took only 40 minutes for I-52 to be spotted by a radar operator in an Avenger aeroplane launched from aircraft carrier USS Bogue. Jesse Taylor, the pilot of the aircraft, dropped depth charges and a Fido acoustic torpedo. Sonobuoys, which floated on the surface and relayed transmitted underwater sounds to the aircraft above, detected the noise of an explosion and a hull breaking up. The next morning, one of the destroyer escorts reached the water where the attack took place, and discovered a grisly scene: parts of bodies floating among rubber and a piece of silk.

When I-52 failed to follow her German counterpart to the rearranged destination in Norway, the Kriegsmarine presumed her sunk in the Bay of Biscay on 25 July 1944. The Japanese navy held out hope, but finally declared her missing on 2 August and officially lost on 10 December. Only after the war ended was the full truth uncovered by both sides. The Japanese found out when and where I-52 was destroyed, while the Americans discovered that the vessel they sent to the bottom of the Atlantic - a Type C-3 cargo submarine able to carry 300,000 kilograms (300 tonnes) in its hold - carried 146 gold bars packed in 49 metal boxes.

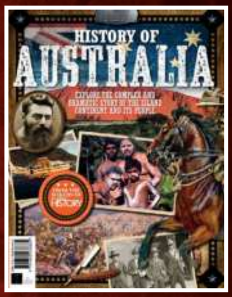
The wreck of I-52 was located in 1995, close to where the US navy said the attack took place, but with debris spread over a wide area. Excited salvagers pulled a metal box to the surface as part of the recovery effort, but found only opium inside. The rest of her golden cargo, thought to be worth over $25 million, still hides at the bottom of the mid-Atlantic.

Examine world wars and epic battles through maps and rare documents
Step back in time and visit the most fascinating ancient civilisations
Explore iconic fighters, cultural traditions, top tactics and weapons
Get great savings when you buy direct from us
1000s of great titles, many not available anywhere else
World-wide delivery and super-safe ordering

HISTORY OF THE
OLYMPIC
GAMES


NEW
STORY OF THE
WESTERN FRONT
HOW NAZI GERMANY WON AND LOST THE WAR IN THE WEST
THE FALL OF FRANCE • D-DAY LANDINGS • END OF THE REICH

HISTORY OF
Folklore, Fairytales & Monsters


HISTORY OF
AUSTRALIA

GREATEST WARRIORS
SPARTANS • CRUSADERS • NINJAS • GURKHAS

NEW
HOLY ROMAN EMPIRE

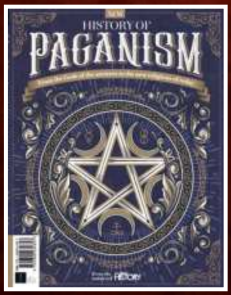
NEW
What if...
Alternative History

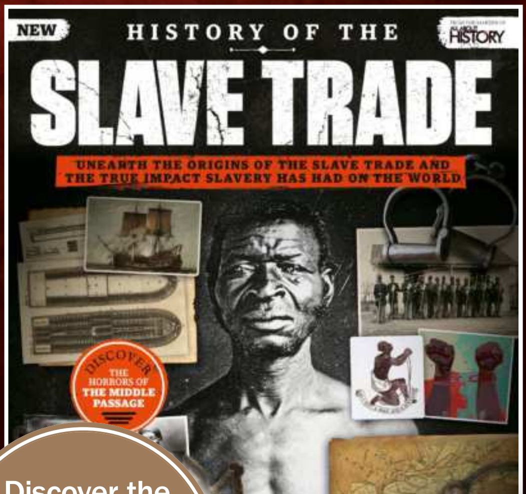
STEP BACK IN TIME WITH OUR HISTORY TITLES

Immerse yourself in a world of emperors, pioneers, conquerors and legends and discover the events that shaped humankind

NEW
HISTORY OF
GHOSTS

HEROES OF
WORLD WAR II


HISTORY OF
PAGANISM


NEW
HISTORY OF THE
SLAVE TRADE
UNEARTH THE ORIGINS OF THE SLAVE TRADE AND THE TRUE IMPACT SLAVERY HAS HAD ON THE WORLD
DISCOVER THE HORRORS OF THE MIDDLE PASSAGE

Discover the truth behind history's most shameful chapters

HISTORY OF
MONSTERS & MYTHICAL BEASTS

ELITE FORCES

BOOK OF
SPELLS

Follow us on Instagram @futurebookazines

FUTURE

www.magazinesdirect.com

Magazines, back issues & bookazines.

SUBSCRIBE &
SAVE UP TO 61%

Delivered direct to your door
or straight to your device

Choose from over 80 magazines and make great savings off the store price!

Binders, books and back issues also available

Simply visit www.magazinesdirect.com

✓ No hidden costs Shipping included in all prices We deliver to over 100 countries Secure online payment

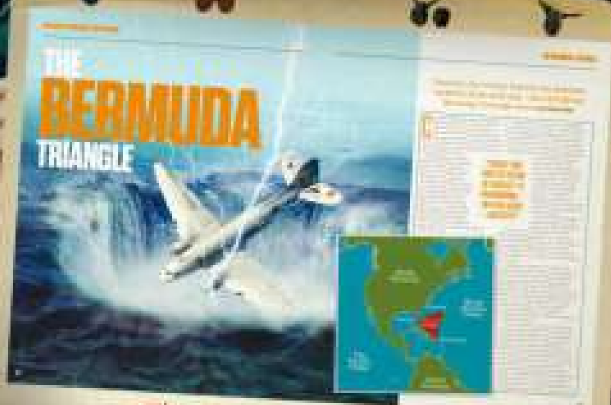
FUTURE

magazinesdirect.com
Official Magazine Subscription Store

VANISHED
INTO THIN AIR

Unexplained disappearances

How did these people disappear seemingly into thin air?


THE
BERMUDA
TRIANGLE

The Bermuda Triangle

Is there any truth behind the legend of this notorious expanse of sea?

HISTORY'S GREATEST MYSTERIES

UNANSWERED, UNSOLVED AND UNEXPLAINED...

LOST
TREASURE

Lost treasure

Will the world's legendary lost riches ever be found?

THE HINDENBURG
DISASTER

Inferno in the sky

What caused the Hindenburg airship to explode?

BOOKAZINE

9021
9000